

RESOURCE PLAN AGGREGATED DATA RESULTS

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STAFF PAPER

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INTRODUCTION

California Energy Commission staff has prepared this paper to provide parties in the *2005 Integrated Energy Policy Report (Energy Report)* proceeding summaries of the resource plans submitted to the California Energy Commission by load serving entities (LSEs) on March 1 and April 1, 2005.

The information provided by the states LSEs is a key part of the record for the *2005 Energy Report* proceeding. Evaluation of this information by California Energy Commission (Energy Commission) staff and other parties will help form the findings and recommendations in the *2005 Energy Report*, which in turn will set the basis for the data and recommendations sent to the California Public Utilities Commission (CPUC) for the 2006 long-term procurement proceeding.

The Energy Commission is committed to ensuring that the *2005 Energy Report* policy proceeding is conducted in an open and public manner. To respect the confidentiality requested by the LSEs and simultaneously accommodate public access to the underlying data, the Energy Commission staff developed summaries and aggregations of the resource plan data submitted by LSEs for parties to review. These summaries and aggregations allow all parties to gain a general understanding of the supply/demand picture for the state and for the three large investor-owned utilities (IOUs).

Confidentiality and Aggregation Proposal Background

Much of the resource plan data supplied by IOUs and electricity service providers (ESPs) is being treated as confidential, either because the Energy Commission Executive Director determined that filers had made a reasonable claim that the information is entitled to protection, or because the LSE appeals of the Executive Director denials of confidentiality applications is not yet complete.

IOUs, ESPs, and Imperial Irrigation District (IID) requested confidential treatment of nearly all the resource plan data they provided on March 1 and/or April 1, 2005. The Executive Director designated the S-1 through S-5 forms of each LSE as confidential. Following these determinations, staff began discussions with LSEs regarding possible aggregation schemes for the S-1 and S-2 filings to balance confidentiality with the need for public access.¹ The three IOUs submitted what they considered acceptable public aggregations of their utilities capacity and energy data. The Energy Commission staff used the IOU's aggregations as the starting point for its own proposals.

Staff offered an informal aggregation proposal in early May and held two meetings with LSEs; one with the three IOUs and one with several representatives of the five filing ESPs. Feedback from this preliminary proposal was considered in the development of the Executive Director's formal proposal.² This proposal was issued

on June 3 and, in keeping with the Energy Commission's confidential data procedures, LSE appeals from the proposal were due 14 days later. Each IOU responded, agreeing to in part and appealing in part different aspects of the proposal. A representative of several ESPs also provided feedback by email, indicating no opposition to the proposal.³ The IOU appeals will be the subject of a hearing at the Energy Commission's July 13, 2005 Business Meeting.

As a result of these responses, staff prepared the tabulations of data described in the following section. These results are provided in a series of sections for each control area contained within California. For the California Independent System Operator (CA ISO) control area, three further disaggregations were provided to allow more complete assessment for this largest control area in the Western Interconnection.

Relationship of this Report to the RPSA Report

The Staff report, *Investor-Owned Utility Resource Plan Summary Assessment* (IOU RPSA) on June 17, 2005 differs from this report two fundamental ways. First, the IOU RPSA focuses exclusively on the resource plan data for the three IOUs. This report provides summaries of the resource plans for all LSEs submitting resource plans as required in the *2005 Energy Report* proceeding. Second, the IOU assessment report focuses on certain aspects of the IOU resource plans, particularly how close these resource plans conform to the policy guidance issued through CPUC D.04-12-048, policy preferences adopted by the Energy Commission in the *2003 Energy Report* and the *2004 Energy Report Update*, and the general preferences of the state's energy agencies as expressed in the 2003 Energy Action Plan. This report does not perform any assessments. It provides summaries of resource plans and allows participants in the *2005 Energy Report* process to conduct their own reviews of LSE resource plans.

AGGREGATION APPROACHES

This section provides an overview of the two methods of aggregation that were proposed by staff and found to be acceptable by the IOUs and ESPs. The IOU and ESP responses of June 17 concur that these methods sufficiently mask the resource plan data for which the IOUs and ESPs requested and received confidentiality designations. The results of implementing these two methods are described in later sections of this report. Additional aggregation methods that the IOUs objected to are not included in this report.

Aggregation from Monthly, Resource Specific to Annual, Resource Category for LSEs

The adopted Supply Forms and Instructions include Forms S-1 and S-2, which enumerate the details of LSE resource plans for a reference case and several alternative scenarios. Form S-1 is for reporting the dependable capacity (megawatts) of resources necessary to cover the highest hourly load plus a 15 percent planning reserve margin for each month and any firm capacity sales in that month. Form S-2 is for reporting the energy (gigawatt-hours) expected to cover monthly customer energy requirements and firm energy exports.

Forms S-1 and S-2 are large spreadsheets in which the LSE identifies the monthly requirements of customers and the performance of individual resources that are owned, under contract, planned, or expected to be available to meet those customer loads. Both forms asked LSEs to identify capacity and energy estimates for all twelve months for eleven years, 2006 through 2016. If additional resources are needed to meet forecast loads and planning reserve margins, the instructions asked LSEs to show these needs as generic resource additions. Any surplus in resources over those needed to cover retail needs can be shown as a sale to the market if that is the strategy the LSE intends to pursue in actual operations. Thus, these two spreadsheets each have 132 monthly columns and roughly 50 to 100 rows to reflect individual resources. It is this level of granularity that the Executive Director designated as confidential.

The basic aggregation approach proposed by staff and agreed to by LSEs combines monthly, resource-specific data in two dimensions: (1) the time dimension is collapsed from monthly to annual and (2) data about individual resources is grouped into categories of similar resources. Because near-term information is more market sensitive, the Executive Director did not include release of information for the years 2006 through 2008 in the proposal.

Annual values are identified for each year 2009 through 2016. For energy tables, the 12 monthly values were simply summed over the months to create an annual total. For capacity tables, staff identified the specific month in which peak demand is the highest for each year, and then selected all of the data for that month to represent that year. Capacity tables showing LSE-specific data for the three IOUs are not included, since those utilities are appealing the Executive Director's proposal to release that level of aggregation to the full Energy Commission. The capacity tables are shown for the three publicly owned utilities (POUs) that are the locus of a control area. Two of these, the Los Angeles Department of Water and Power (LADWP) and Sacramento Municipal Utility District (SMUD), did not request confidentiality for their supply filings. The third, the Imperial Irrigation District (IID), was granted confidentiality for the detailed filings but has agreed to the public release at this level of aggregation.

In addition, individual rows of resource-specific data from the submittals were combined into various category subtotals. In these aggregated tables, staff preserved all the rows relating to demand that do not reveal supplier categories, but combined suppliers into categories of resources (for example, utility-controlled fossil resources, or existing and planned renewable contracts). The result of these two dimensions of aggregation is annual, resource-category summaries.

The resource category summaries used to prepare the aggregations are straightforward. LSE-owned facilities are considered separate from long-term contracts. Within LSE-owned projects, subcategories are identified by technology, for example, nuclear, fossil, hydroelectric (large and small), and renewable technologies. Several types of contractual resources are grouped separately, such as DWR contracts allocated to an IOU, qualifying facilities under contract to an IOU, existing and in negotiation renewable contracts, other bilateral contracts, and spot/short term market purchases. Any shortfall of these resources to cover load is shown as a generic addition, either as renewable generation additions that must yet be acquired to satisfy renewable portfolio standard (RPS) commitments, or other generic non-renewable resource additions.

The S-1 and S-2 forms require the LSE to provide an accounting of the various adjustments to demand. Each form starts with total electricity consumption by all end users to which the LSE distributes electricity or has a contractual supply relationship. The adjustments to demand then consist of two categories: removal of some end-use load that other suppliers may meet (through direct access, core/non-core, or community choice relationships), and meeting load through demand-side resources (energy efficiency, price responsive demand, and distributed generation on the customer side of the meter). LSEs added 15 percent planning reserves for capacity to the peak demand subtotal, as directed by the Energy Commission. Any firm sales obligations are added to energy and peak demand. The resulting total defines the monthly energy or peak requirements that each LSE must meet with generating resources.

Finally, adopted Supply Forms and Instructions required all LSEs to prepare a reference case, and the three IOUs to prepare three additional scenarios reflecting key uncertainties. These uncertainties included consideration of different amounts of departing load, acceleration of the introduction and higher targets for renewable resources, and a “without” case for any major transmission project included in the reference case. IOUs were also encouraged to submit a preferred case if the specifications of various elements comprising the reference case were not preferred by the IOU, or the specific assumptions specified for the reference case were considered unlikely.

Staff applied the above aggregation procedure to the reference case and each scenario that was submitted to the Commission.

Aggregation to Planning Areas and Control Areas

In this second form of aggregation, resource plan data from all LSEs serving load within a control area were aggregated into a summary table with the same format as described above for IOU annual energy, except that both capacity and energy tables are provided. Showing how energy and capacity resources balance with load give some understanding of the type of resources that may have been added in the “generic additions” portion of each table. For example, if relatively small amounts of energy correspond to a large amount of capacity, then one can infer that peaking resources are needed. Conversely, if considerable energy accompanies the capacity additions, then load following or even some baseload units should be added.

Four entities currently operate control areas that are entirely within California: the California Independent System Operator (CA ISO), LADWP, SMUD, and the IID. Since the CA ISO control area is so large and transmission constraints necessitate planning on a smaller basis, staff used the participating transmission owner (PTO) transmission planning area for this part of the summary. Table 1 identifies the supply data filings by LSEs within each control area and the subsidiary planning areas of the CA ISO control area.

The portrayal of ESP resources in these planning area tables requires special explanation. In the Supply Forms and Instructions, ESPs report resource plans using the same S-1 and S-2 forms IOUs and POUs use. ESPs reported for the total load they serve across all three IOU distribution service areas and did not report separate resource plans for the loads in each IOU distribution service area. However, in the Demand Forms and Instructions, ESPs were required to allocate their loads among the three IOU service areas. Staff used the proportions of load each ESP reported in the Demand Forms to allocate the resources reported in S-1 and S-2 Supply Forms to each of the three planning areas in the CA ISO control area. To the extent these shares changed through the forecast time horizon such shifting shares were used to allocate resources.

Similarities to and Differences from Demand Forecast Comparison Report

Staff used this planning area level of aggregation of LSE loads in its *Electricity Demand Forecast Comparison* report, which compares the staff demand forecast to those provided by the LSEs. This report was publicly released on June 20 and will be discussed at a hearing on June 30. Because LSEs with a peak demand of less than 200 MW were not required to submit demand forecasts, using control areas and CA ISO planning areas requires estimation of the loads associated with these small suppliers. Staff prepared an estimate of peak demand for 2005 by determining the proportion that these loads represent in each planning area. This estimate is sufficiently small that the smaller entities can be approximated without introducing appreciable error into the overall total.

Table 1. Definitions of Proposed Geographic Areas for Release of Aggregated Load Forecast and Resource Plan Data

Control Area	Component Planning Areas	Supply Data Filings from LSEs in Area	Implementation for Resource Plan Summary Tables
CA ISO	PG&E Planning Area (PA)*	IOU, ESPs >200 MW, POUs > 200 MW	Resources associated with minor ESPs and POUs <200 MW peak demand were not estimated.
	SCE PA*	IOU, ESPs >200 MW, POUs > 200 MW	Same as above, plus MWD data.
	SDG&E PA*	IOU, ESPs >200 MW	Resources associated with minor ESPs <200 MW peak demand were not estimated.
	DWR (split into North and South)		Neither staff nor DWR have prepared a DWR demand forecast. DWR is busy with a major water study preceding a load forecast/resource plan effort.
LADWP	Single area	LADWP, Burbank, and Glendale	None
SMUD	Single area	SMUD, Roseville, Redding	Resources under the control of WAPA serving its direct service loads were not estimated.
IID	Single area	IID	Although its detailed resource plan data was granted confidential status, IID agreed to annual, resource category aggregation.

* IOU bundled customers average from 81-85 percent of the peak load in these planning areas.

This aggregation of IOU, ESP, and municipal utility load data into three IOU-centric planning areas could create disclosure problems for any of the component LSE elements that need to be protected. However, in previous informal discussions with IOUs and ESPs, staff found support for this general approach. Staff's assessment of the confidential data along with public data from municipal utilities and smaller ESPs and municipals that were not required to file in this *2005 Energy Report* cycle indicates that IOU load forecasts are in the range of 80 - 85 percent of planning area totals for year 2005.⁴ This percentage combined with the fact that the number of entities included in the aggregation is at least 10 LSEs per planning area sufficiently masks the underlying confidential data of the individual LSEs.

While staff was able to estimate the loads associated with LSEs that are under the 200 MW threshold for reporting, staff does not have the information needed to estimate the resources owned or under contract by those LSEs. Thus, the resource plans in the aggregated data tables below only reflect resources reported by the larger LSEs that filed information in this proceeding.

Aggregation of Individual Resource Plan Scenarios within Planning Areas

IOUs provided monthly tabulations of individual resources for capacity and energy to serve load in Forms S-1 and S-2, respectively, for four scenarios. Three of the scenarios were common to all three IOUs. Each IOU also prepared one scenario unique to that utility. These detailed, confidential scenarios reveal how each IOU proposes to adapt should an alternative future other than the reference case materialize. The size of the adjustments to load (core/ non-core, community choice aggregation/ municipal departing load, and the levels of preferred loading order resources) are the largest driving factors that distinguish these scenarios.

Staff provides separate aggregated tables for the individual resource plan scenarios just as for the reference case. These annual tables are needed to understand the nature of the differences among the scenarios. These tables may also be useful in understanding the consequences of various public policy initiatives. However, because the POUs and ESPs were not generally required to submit these alternative cases, staff prepared amalgams of different scenarios when preparing the planning area summaries. Table 2 shows how staff combined the POU and ESP cases with the IOU scenarios to prepare these scenarios for the planning area. The names of the planning area cases on Table 2 are used in the tabular results shown for each planning area in the sections of this report that follow.

Table 2. Development of Planning Area Scenario Tables from LSE Cases

IOU Planning Area Cases	Scenarios included in case	
	IOU	POU and ESP
Reference Case	Reference Case	Reference Case
Accelerated Renewables	Accelerated Renewables (also for SMUD)	Reference Case
Preferred Case	Preferred/Alternative Cases	Reference Case
PG&E Departing Load	PG&E Core/Non-Core	Reference Case
SCE Transmission	SCE No DPV2 Line	Reference Case
SDG&E Transmission	SDG&E No Transmission	Reference Case

Cautions with Interpretation of the Planning Area Tables

Three cautions are warranted in reviewing the planning area summary tables.

First, IOUs projected levels of departing load associated with increased municipalization and with the implementation of community choice aggregation in either the reference case or in other scenarios. While these loads do depart the IOU's procurement responsibility, they do not leave the planning area, and some other entity would become responsible to serve the loads. Unfortunately, no entity was explicitly required to submit a demand forecast or a resource plan for that load in the 2005 Energy Report proceeding. Thus to the extent that IOUs assumed departing load, then values for net demand and for total peak or energy requirements in the top section of the summary tables are too low and the resources identified to serve these loads. In effect, these tables identify disappearing load that will not in actuality disappear.

Second, some LSEs did not provide balanced resource plans and failed to sufficient resources to cover identified loads. The resulting summary tables do not represent balanced resource plans for the planning areas.

Third, not all LSEs followed the instructions for the Supply Forms and Instructions and submitted resource plan summaries in the same manner. As a minor example, not all LSEs identified resources that satisfy the 15 percent planning reserve margin for capacity. At least one LSE generally met the 15 percent level on average, but dipped below and exceeded this level in various future years.

In sum, these tables reflect the way in which the LSEs that filed submitted data. In some instances, they did not provide what was requested. In other instances, emergent LSEs were not requested to file and thus data about existing or predicted loads and the resources needed to serve these loads is missing. Thus, these tables reflect existing LSEs' intentions to serve load, rather than a physical examination of load and resource balances.

Constraints on Publication

The energy summary tables for the three IOUs and the control/planning area summary tables for the six geographic aggregations described earlier in this section are a subset of the June 3 aggregation proposal issued by the Executive Director and responded to by the IOUs and ESPs on June 17. Objections were received to all forms of quarterly aggregation and to annual capacity tables for individual IOUs. Staff cannot provide more detailed results at this time while appeals on confidentiality are pending. More data disclosures may be possible later in the *2005 Energy Report* proceeding.

PG&E PLANNING AREA RESULTS

This section provides the aggregation tables for the portion of the CA ISO control area defined as the PG&E planning area. Table 1 indicates the generic entities whose data are reported in the tables of this section following this explanatory text. POUs include Modesto Irrigation District, Silicon Valley Power, and Turlock Irrigation District. ESPs with loads and resources include APS Energy Services, Constellation/New Energy, Pilot Power, Sempra Energy Solutions, and Strategic Energy.

Aggregated Planning Area Capacity and Energy Tables

Aggregated planning area tables are reported for four different scenarios for both annual capacity and annual energy, totaling eight tables. These scenarios are:

- Reference Case
- Accelerated Renewables
- Preferred Case
- PG&E Departing Load Case

Among the utilities in this planning area, only PG&E provided alternative scenario resource plans; therefore, for the alternative scenarios, staff used the POU and ESP reference case resource plans to fill out the capacity and energy tables for the whole planning area. Staff understands that the scenario entitled Preferred Case reflects the collective preferences of the entire set of LSEs submitting resource plans. In the three other cases, only the IOU results differ from the Reference Case.

Annual Capacity Tables

Four annual capacity tables (Tables 3 through 6) are reported for the aggregation of LSEs that submitted resource plans for the PG&E planning area. To summarize the general explanation provided in Section 2, each of these tables can be thought of as adding together the common cell locations of nine LSE-specific tables. For example, the capacity value reported in the planning area table for LSE-owned fossil resources in year 2009 is the summation of what each of nine separate LSEs reported for fossil capacity in that year.

Annual Energy Tables

Four annual energy tables (Tables 7 through 10) were constructed for the aggregation of LSEs that submitted resource plans for the PG&E planning area. The same approach used for capacity was used for energy when adding together the

comparable data from the LSE-specific aggregated table reporting annual, resource-category results.

Aggregated PG&E Bundled Customer Annual Energy Tables

Aggregated PG&E IOU bundled customer annual energy is reported for each of the four scenarios submitted by PG&E (Tables 11 through 14). The differences among these four scenarios reflect the decisions PG&E made in interpreting the Supply Forms and Instructions for the reference case and for the alternative scenarios that they were directed to submit.

PG&E prepared a full resource plan for the “core/non-core” departing load uncertainty that the Supply Forms and Instructions directed them to assess. One might interpret this “core/non-core” scenario as reflecting a variety of departing load possibilities including legislation enabling a “core/non-core” market structure, community choice aggregation, and other municipalization such as the SMUD action to annex a portion of PG&E’s service area in Yolo County.

PG&E also provided a “preferred” case in which a variety of different entries differ from the other cases, both in the adjustments to load and in the resource-categories comprising the majority of each table.

Annual capacity tables for bundled loads were not prepared due to IOU appeals of the staff-proposed aggregation at this level.

**Table 3. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	22,516	22,921	23,321	23,714	24,181	24,547	24,883	25,282
Load Adjustment for This Scenario(-)	2,473	2,534	2,606	2,740	2,926	3,009	3,029	2,935
Uncommitted Price Sensitive DR Programs (-)	827	840	852	865	878	891	904	918
Uncommitted Energy Efficiency (2009-2016) (-)	414	539	639	679	1,014	1,142	1,321	1,438
Distributed Generation (-)	242	282	314	339	357	375	392	409
Net Peak Demand	18,560	18,726	18,909	19,091	19,006	19,129	19,236	19,582
Net Peak Demand + 15% Planning Reserve Margin	21,337	21,529	21,739	21,948	21,850	21,992	22,116	22,513
Firm Sales Obligations	3	3	3	3	3	3	3	3
Firm Peak Resource Requirement	21,341	21,532	21,742	21,952	21,854	21,996	22,119	22,516
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214
Fossil	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128
Total Dependable Fossil and Nuclear Capacity	3,342	3,342	3,342	3,342	3,342	3,342	3,342	3,342
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,914	4,914	4,914	4,914	4,914	4,819	4,819	4,819
Total for all plants 30 MW nameplate or less	471	471	471	471	471	461	461	461
Hydro Derate (-) for 1-in-5 conditions	276	276	276	276	276	238	238	238
Total Dependable Hydro Capacity	5,109	5,109	5,109	5,109	5,109	5,042	5,042	5,042
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	55	54	52	51	50	49	48	47
Total Utility-Controlled Physical Resources	8,506	8,505	8,503	8,502	8,501	8,433	8,432	8,431
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
CalPeak Panoche	52	52	52					
CalPeak Vaca Dixon	52	52	52					
Calpine #1 Product 1	1,000							
Calpine #2 Product 1	1,000							
Calpine #3	495	495						
Coral	925	925	925					
GWF	361	361	361	173				
Kings River	90	90	90	90	90	90		
PacifiCorp	300	300						
Wellhead Fresno	21	21	21					
Wellhead Gates	46	46	46					
Wellhead Panoche	50	50	50					
Total DWR Contracts	4,392	2,392	1,597	263	90	90		
QF Dependable Capacity	2,559	2,536	2,532	2,517	2,508	2,495	2,478	2,472
Renewable Contracts	169	170	171	172	174	96	97	96
Other Bilateral Contracts	1,522	1,536	1,525	1,538	873	888	880	800
Short Term and Spot Market Purchases	250	131	189	222	210	254	314	396
TOTAL: EXISTING & PLANNED CAPACITY	17,398	15,270	14,517	13,214	12,356	12,255	12,201	12,194
Existing Interruptible / Emergency (I/E) Programs	404	404	404	404	404	404	404	404
Uncommitted Dispatchable Demand Response	271	276	280	285	289	294	299	304
TOTAL CAPACITY + I/E and UDDR	18,074	15,950	15,201	13,904	13,050	12,954	12,904	12,902
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	679	790	885	894	974	983	1,028	1,059
Capacity for other Generic Resources	2,321	4,378	5,190	6,702	7,469	7,586	7,798	8,060
Total Capacity of Future Generic Resources	3,000	5,168	6,075	7,596	8,443	8,569	8,826	9,119

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 4. Annual Aggregated Dependable Capacity Resource Accounting Table
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs
Accelerated Renewables Case

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	22,452	22,820	23,179	23,536	23,997	24,364	24,697	25,084
Load Adjustment for This Scenario(-)	3,037	3,421	3,842	4,326	4,531	4,628	4,683	4,679
Uncommitted Price Sensitive DR Programs (-)	827	840	852	865	878	891	904	918
Uncommitted Energy Efficiency (2009-2016) (-)	414	539	639	679	1,014	1,142	1,321	1,438
Distributed Generation (-)	242	282	314	339	357	375	392	409
Net Peak Demand	17,933	17,738	17,532	17,327	17,217	17,328	17,396	17,640
Net Peak Demand + 15% Planning Reserve Margin	20,616	20,393	20,155	19,920	19,793	19,921	19,999	20,280
Firm Sales Obligations	3	3	3	3	3	3	3	3
Firm Peak Resource Requirement	20,620	20,396	20,158	19,923	19,796	19,924	20,003	20,283
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214
Fossil	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128
Total Dependable Fossil and Nuclear Capacity	3,342	3,342	3,342	3,342	3,342	3,342	3,342	3,342
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,914	4,914	4,914	4,914	4,914	4,819	4,819	4,819
Total for all plants 30 MW nameplate or less	471	471	471	471	471	461	461	461
Hydro Derate (-) for 1-in-5 conditions	276	276	276	276	276	238	238	238
Total Dependable Hydro Capacity	5,109	5,109	5,109	5,109	5,109	5,042	5,042	5,042
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	55	54	52	51	50	49	48	47
Total Utility-Controlled Physical Resources	8,506	8,505	8,503	8,502	8,501	8,433	8,432	8,431
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
CalPeak Panoche	52	52	52					
CalPeak Vaca Dixon	52	52	52					
Calpine #1 Product 1	1,000							
Calpine #2 Product 1	1,000							
Calpine #3	495	495						
Coral	925	925	925					
GWF	361	361	361	173				
Kings River	90	90	90	90	90	90		
PacifiCorp	300	300						
Wellhead Fresno	21	21	21					
Wellhead Gates	46	46	46					
Wellhead Panoche	50	50	50					
Total DWR Contracts	4,392	2,392	1,597	263	90	90		
QF Dependable Capacity	2,559	2,536	2,532	2,517	2,508	2,495	2,478	2,472
Renewable Contracts	169	170	171	172	174	96	97	96
Other Bilateral Contracts	1,522	1,536	1,525	1,538	873	888	880	800
Short Term and Spot Market Purchases	250	131	189	222	210	254	314	396
TOTAL: EXISTING & PLANNED CAPACITY	17,398	15,270	14,517	13,214	12,356	12,255	12,201	12,194
Existing Interruptible / Emergency (I/E) Programs	404	404	404	404	404	404	404	404
Uncommitted Dispatchable Demand Response	271	276	280	285	289	294	299	304
TOTAL CAPACITY + I/E and UDDR	18,074	15,950	15,201	13,904	13,050	12,954	12,904	12,902
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	679	790	916	1,017	1,115	1,245	1,412	1,505
Capacity for other Generic Resources	1,821	3,378	3,590	4,502	5,469	5,486	5,498	5,560
Total Capacity of Future Generic Resources	2,500	4,168	4,506	5,520	6,584	6,731	6,910	7,065

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 5. Annual Aggregated Dependable Capacity Resource Accounting Table
Alternate (or Preferred) Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	22,452	22,820	23,179	23,536	23,997	24,364	24,697	25,084
Load Adjustment for This Scenario(-)	3,037	3,421	3,842	4,326	4,531	4,628	4,683	4,679
Uncommitted Price Sensitive DR Programs (-)	827	840	852	865	878	891	904	918
Uncommitted Energy Efficiency (2009-2016) (-)	414	539	639	679	1,014	1,142	1,321	1,438
Distributed Generation (-)	242	282	314	339	357	375	392	409
Net Peak Demand	17,933	17,738	17,532	17,327	17,217	17,328	17,396	17,640
Net Peak Demand + 15% Planning Reserve Margin	20,616	20,393	20,155	19,920	19,793	19,921	19,999	20,280
Firm Sales Obligations	3	3	3	3	3	3	3	3
Firm Peak Resource Requirement	20,620	20,396	20,158	19,923	19,796	19,924	20,003	20,283
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214
Fossil	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128
Total Dependable Fossil and Nuclear Capacity	3,342	3,342	3,342	3,342	3,342	3,342	3,342	3,342
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,914	4,914	4,914	4,914	4,914	4,819	4,819	4,819
Total for all plants 30 MW nameplate or less	471	471	471	471	471	461	461	461
Hydro Derate (-) for 1-in-5 conditions	276	276	276	276	276	238	238	238
Total Dependable Hydro Capacity	5,109	5,109	5,109	5,109	5,109	5,042	5,042	5,042
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	55	54	52	51	50	49	48	47
Total Utility-Controlled Physical Resources	8,506	8,505	8,503	8,502	8,501	8,433	8,432	8,431
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
CalPeak Panoche	52	52	52					
CalPeak Vaca Dixon	52	52	52					
Calpine #1 Product 1	1,000							
Calpine #2 Product 1	1,000							
Calpine #3	495	495						
Coral	925	925	925					
GWF	361	361	361	173				
Kings River	90	90	90	90	90	90		
PacifiCorp	300	300						
Wellhead Fresno	21	21	21					
Wellhead Gates	46	46	46					
Wellhead Panoche	50	50	50					
Total DWR Contracts	4,392	2,392	1,597	263	90	90		
QF Dependable Capacity	2,559	2,536	2,532	2,517	2,508	2,495	2,478	2,472
Renewable Contracts	169	170	171	172	174	96	97	96
Other Bilateral Contracts	1,522	1,536	1,525	1,538	873	888	880	800
Short Term and Spot Market Purchases	250	131	189	222	210	254	314	396
TOTAL: EXISTING & PLANNED CAPACITY	17,398	15,270	14,517	13,214	12,356	12,255	12,201	12,194
Existing Interruptible / Emergency (I/E) Programs	404	404	404	404	404	404	404	404
Uncommitted Dispatchable Demand Response	271	276	280	285	289	294	299	304
TOTAL CAPACITY + I/E and UDDR	18,074	15,950	15,201	13,904	13,050	12,954	12,904	12,902
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	679	790	885	894	974	983	1,028	1,059
Capacity for other Generic Resources	1,821	3,378	3,590	4,602	5,669	5,786	5,898	6,060
Total Capacity of Future Generic Resources	2,500	4,168	4,475	5,496	6,643	6,769	6,926	7,119

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 6. Annual Aggregated Dependable Capacity Resource Accounting Table
Core/Non-Core Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	22,421	22,769	23,109	23,447	23,905	24,272	24,604	24,984
Load Adjustment for This Scenario(-)	3,318	3,864	4,460	5,119	5,334	5,437	5,510	5,550
Uncommitted Price Sensitive DR Programs (-)	827	840	852	865	878	891	904	918
Uncommitted Energy Efficiency (2009-2016) (-)	414	539	639	679	1,014	1,142	1,321	1,438
Distributed Generation (-)	242	282	314	339	357	375	392	409
Net Peak Demand	17,619	17,245	16,843	16,445	16,322	16,427	16,476	16,669
Net Peak Demand + 15% Planning Reserve Margin	20,256	19,825	19,363	18,906	18,765	18,885	18,941	19,164
Firm Sales Obligations	3	3	3	3	3	3	3	3
Firm Peak Resource Requirement	20,259	19,828	19,367	18,909	18,768	18,888	18,945	19,167
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214
Fossil	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128
Total Dependable Fossil and Nuclear Capacity	3,342	3,342	3,342	3,342	3,342	3,342	3,342	3,342
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,914	4,914	4,914	4,914	4,914	4,819	4,819	4,819
Total for all plants 30 MW nameplate or less	471	471	471	471	471	461	461	461
Hydro Derate (-) for 1-in-5 conditions	276	276	276	276	276	238	238	238
Total Dependable Hydro Capacity	5,109	5,109	5,109	5,109	5,109	5,042	5,042	5,042
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	55	54	52	51	50	49	48	47
Total Utility-Controlled Physical Resources	8,506	8,505	8,503	8,502	8,501	8,433	8,432	8,431
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
CalPeak Panoche	52	52	52					
CalPeak Vaca Dixon	52	52	52					
Calpine #1 Product 1	1,000							
Calpine #2 Product 1	1,000							
Calpine #3	495	495						
Coral	925	925	925					
GWF	361	361	361	173				
Kings River	90	90	90	90	90	90		
PacifiCorp	300	300						
Wellhead Fresno	21	21	21					
Wellhead Gates	46	46	46					
Wellhead Panoche	50	50	50					
Total DWR Contracts	4,392	2,392	1,597	263	90	90		
QF Dependable Capacity	2,559	2,536	2,532	2,517	2,508	2,495	2,478	2,472
Renewable Contracts	169	170	171	172	174	96	97	96
Other Bilateral Contracts	1,522	1,536	1,525	1,538	873	888	880	800
Short Term and Spot Market Purchases	250	131	189	222	210	254	314	396
TOTAL: EXISTING & PLANNED CAPACITY	17,398	15,270	14,517	13,214	12,356	12,255	12,201	12,194
Existing Interruptible / Emergency (I/E) Programs	404	404	404	404	404	404	404	404
Uncommitted Dispatchable Demand Response	271	276	280	285	289	294	299	304
TOTAL CAPACITY + I/E and UDDR	18,074	15,950	15,201	13,904	13,050	12,954	12,904	12,902
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	679	790	885	894	974	983	1,028	1,059
Capacity for other Generic Resources	1,821	2,878	2,890	3,602	4,669	4,886	4,898	5,060
Total Capacity of Future Generic Resources	2,500	3,668	3,775	4,496	5,643	5,869	5,926	6,119

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 7. Annual Aggregated Energy Resource Accounting Table
Reference Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	110,206	112,033	113,862	115,685	117,442	119,141	120,866	122,542
Load Adjustments for this Scenario(-)	12,314	12,882	13,467	14,070	14,691	14,771	14,847	14,919
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	94,731	95,206	95,773	96,289	96,676	97,452	98,275	99,069
Firm Sales Obligations	423	423	423	423	423	423	423	423
Total Energy Requirement	95,154	95,629	96,196	96,712	97,099	97,875	98,698	99,492
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	3,993	3,888	3,906	3,919	3,928	3,936	3,986	3,981
Total Fossil and Nuclear Energy Supply	19,566	21,434	21,503	20,715	21,511	21,487	20,732	21,606
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	17,063	16,371	16,103	16,141	15,255	14,614	14,427	13,552
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	449	443	432	430	406	398	388	399
Total Utility-Controlled Physical Resources								
	37,079	38,248	38,038	37,286	37,172	36,499	35,547	35,556
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,190	1,226	1,258	1,292	1,328	1,073	878	890
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	6,897	6,924	5,285	4,347	3,865	3,934	3,801	3,601
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-5,263	984	3,015	1,622	1,048	2,252	2,783	3,090
TOTAL: EXISTING & PLANNED ENERGY	80,833	70,399	69,951	65,505	63,121	63,350	62,472	62,525
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,534	6,617	7,102	7,361	7,544	7,864	8,349	9,084
Other Generic Addition for Energy	6,585	16,418	16,953	21,668	24,326	24,584	25,735	25,998
Total Future Generic Resource Needs	12,119	23,035	24,055	29,029	31,870	32,448	34,084	35,083

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 8. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	109,958	111,675	113,368	115,037	116,807	118,507	120,215	121,907
Load Adjustments for this Scenario(-)	12,224	13,874	15,619	17,438	17,641	17,841	18,028	18,217
Uncommitted Price Sensitive DR Programs (-)	3,077	3,645	4,229	4,832	5,453	5,533	5,609	5,681
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	91,497	90,211	88,897	87,441	87,638	88,215	88,834	89,455
Firm Sales Obligations	423	423	423	423	423	423	423	423
Total Energy Requirement	91,920	90,634	89,321	87,864	88,061	88,638	89,258	89,878
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	4,170	4,066	4,077	4,091	4,098	4,110	4,159	4,162
Total Fossil and Nuclear Energy Supply	19,743	21,612	21,673	20,888	21,682	21,661	20,906	21,786
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	17,060	17,066	17,078	17,122	17,071	16,915	16,728	16,782
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	449	443	432	430	406	398	388	399
Total Utility-Controlled Physical Resources	37,253	39,120	39,184	38,440	39,159	38,974	38,022	38,967
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,190	1,226	1,258	1,292	1,328	1,073	878	890
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	6,897	6,924	5,285	4,347	3,865	3,934	3,801	3,601
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-7,704	-331	-1,952	-2,562	-3,189	-3,573	-3,544	-4,892
TOTAL: EXISTING & PLANNED ENERGY	78,566	69,957	66,130	62,475	60,870	59,999	58,620	57,953
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,534	6,617	7,198	8,228	8,698	9,881	11,230	12,645
Other Generic Addition for Energy	5,618	11,865	13,803	14,983	16,384	16,680	17,267	17,396
Total Future Generic Resource Needs	11,152	18,482	21,001	23,211	25,083	26,562	28,496	30,041

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 9. Annual Aggregated Energy Resource Accounting Table
Alternate (or Preferred) Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	109,958	111,675	113,368	115,037	116,807	118,507	120,215	121,907
Load Adjustments for this Scenario(-)	15,301	17,519	19,848	22,270	23,094	23,374	23,636	23,897
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	91,497	90,211	88,897	87,441	87,638	88,215	88,834	89,455
Firm Sales Obligations	423	423	423	423	423	423	423	423
Total Energy Requirement	91,920	90,634	89,321	87,864	88,061	88,638	89,258	89,878
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	4,170	4,066	4,077	4,091	4,098	4,110	4,159	4,162
Total Fossil and Nuclear Energy Supply	19,743	21,612	21,673	20,888	21,682	21,661	20,906	21,786
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	17,060	17,066	17,078	17,122	17,071	16,915	16,728	16,782
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	449	443	432	430	406	398	388	399
Total Utility-Controlled Physical Resources								
	37,253	39,120	39,184	38,440	39,159	38,974	38,022	38,967
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,190	1,226	1,258	1,292	1,328	1,073	878	890
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	6,897	6,924	5,285	4,347	3,865	3,934	3,801	3,601
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-7,704	-331	-1,855	-1,796	-2,247	-1,888	-1,111	-1,912
TOTAL: EXISTING & PLANNED ENERGY								
	78,566	69,957	66,226	63,241	61,812	61,684	61,053	60,933
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,534	6,617	7,102	7,361	7,544	7,864	8,349	9,084
Other Generic Addition for Energy	5,618	11,865	13,803	15,083	16,597	17,013	17,714	16,398
Total Future Generic Resource Needs	11,152	18,482	20,904	22,444	24,141	24,877	26,063	25,483

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 10. Annual Aggregated Energy Resource Accounting Table
Core/Non-Core Case
PG&E Planning Area, including PG&E Bundled Loads, MID, SVP, TID, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	109,834	111,482	113,102	114,694	116,456	118,148	119,847	121,530
Load Adjustments for this Scenario(-)	16,794	19,837	23,038	26,370	27,295	27,675	28,031	28,387
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	89,880	87,700	85,441	82,998	83,086	83,554	84,072	84,589
Firm Sales Obligations	423	423	423	423	423	423	423	423
Total Energy Requirement	90,303	88,123	85,865	83,421	83,509	83,977	84,495	85,012
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	4,170	4,066	4,077	4,091	4,098	4,110	4,159	4,162
Total Fossil and Nuclear Energy Supply	19,743	21,612	21,673	20,888	21,682	21,661	20,906	21,786
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	17,060	17,066	17,078	17,122	17,071	16,915	16,728	16,782
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	449	443	432	430	406	398	388	399
Total Utility-Controlled Physical Resources								
	37,253	39,120	39,184	38,440	39,159	38,974	38,022	38,967
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,190	1,226	1,258	1,292	1,328	1,073	878	890
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	6,897	6,924	5,285	4,347	3,865	3,934	3,801	3,601
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-9,321	-442	-1,809	-2,347	-2,832	-2,665	-1,750	-2,724
TOTAL: EXISTING & PLANNED ENERGY								
	76,948	69,846	66,273	62,691	61,227	60,908	60,414	60,120
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,534	6,617	7,102	7,361	7,544	7,864	8,349	9,084
Other Generic Addition for Energy	5,618	9,465	10,300	11,192	12,629	13,128	13,590	13,923
Total Future Generic Resource Needs	11,152	16,083	17,402	18,553	20,173	20,992	21,939	23,007

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 11. Annual Aggregated Energy Resource Accounting Table
Reference Case
PG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	96,653	98,209	99,757	101,295	102,753	104,191	105,552	106,906
Load Adjustments for this Scenario(-)	12,314	12,882	13,467	14,070	14,691	14,771	14,847	14,919
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	81,179	81,381	81,668	81,898	81,986	82,502	82,961	83,433
Firm Sales Obligations	413	413	413	413	413	413	413	413
Total Energy Requirement	81,592	81,794	82,081	82,311	82,399	82,915	83,374	83,846
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil								
Total Fossil and Nuclear Energy Supply	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	15,983	15,290	15,023	15,061	14,174	13,534	13,347	12,471
Total Utility-Controlled Physical Resources	31,556	32,836	32,619	31,857	31,758	31,085	30,093	30,095
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	519	526	528	528	527	300	66	31
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,585	3,670	2,076	1,063	516	518	429	413
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-6,418	425	2,345	932	455	1,660	2,131	2,658
TOTAL: EXISTING & PLANNED ENERGY	70,171	60,475	59,924	55,339	52,963	53,155	52,182	52,584
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,423	6,481	6,864	7,023	7,105	7,250	7,633	7,746
Other Generic Addition for Energy	5,998	14,838	15,293	19,949	22,331	22,510	23,559	23,516
Total Future Generic Resource Needs	11,420	21,319	22,157	26,973	29,436	29,760	31,192	31,261

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 12. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
PG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	96,405	97,850	99,262	100,646	102,117	103,557	104,902	106,271
Load Adjustments for this Scenario(-)	12,224	13,874	15,619	17,438	17,641	17,841	18,028	18,217
Uncommitted Price Sensitive DR Programs (-)	3,077	3,645	4,229	4,832	5,453	5,533	5,609	5,681
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	77,944	76,386	74,792	73,050	72,948	73,265	73,521	73,819
Firm Sales Obligations	413	413	413	413	413	413	413	413
Total Energy Requirement	78,357	76,799	75,205	73,463	73,361	73,678	73,934	74,232
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	177	178	171	173	171	174	174	180
Total Fossil and Nuclear Energy Supply	15,750	17,724	17,767	16,969	17,755	17,725	16,920	17,804
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	15,979	15,985	15,998	16,042	15,991	15,834	15,647	15,701
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources	31,730	33,709	33,765	33,011	33,745	33,559	32,567	33,505
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	519	526	528	528	527	300	66	31
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,585	3,670	2,076	1,063	516	518	429	413
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-8,860	-890	-2,622	-3,252	-3,783	-4,165	-4,196	-5,324
TOTAL: EXISTING & PLANNED ENERGY	67,904	60,033	56,102	52,309	50,713	49,804	48,329	48,013
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,423	6,481	6,961	7,890	8,259	9,267	10,513	11,306
Other Generic Addition for Energy	5,031	10,285	12,142	13,264	14,389	14,607	15,091	14,913
Total Future Generic Resource Needs	10,453	16,766	19,103	21,154	22,649	23,874	25,605	26,219

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 13. Annual Aggregated Energy Resource Accounting Table
Alternate (or Preferred) Case
PG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	96,405	97,850	99,262	100,646	102,117	103,557	104,902	106,271
Load Adjustments for this Scenario(-)	15,301	17,519	19,848	22,270	23,094	23,374	23,636	23,897
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	77,944	76,386	74,792	73,050	72,948	73,265	73,521	73,819
Firm Sales Obligations	413	413	413	413	413	413	413	413
Total Energy Requirement	78,357	76,799	75,205	73,463	73,361	73,678	73,934	74,232
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:	177	178	171	173	171	174	174	180
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	177	178	171	173	171	174	174	180
Total Fossil and Nuclear Energy Supply	15,750	17,724	17,767	16,969	17,755	17,725	16,920	17,804
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	15,979	15,985	15,998	16,042	15,991	15,834	15,647	15,701
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources	31,730	33,709	33,765	33,011	33,745	33,559	32,567	33,505
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	519	526	528	528	527	300	66	31
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,585	3,670	2,076	1,063	516	518	429	413
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-8,860	-890	-2,525	-2,485	-2,841	-2,480	-1,763	-2,344
TOTAL: EXISTING & PLANNED ENERGY	67,904	60,033	56,199	53,075	51,655	51,489	50,763	50,992
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,423	6,481	6,864	7,023	7,105	7,250	7,633	7,746
Other Generic Addition for Energy	5,031	10,285	12,142	13,364	14,602	14,939	15,538	13,916
Total Future Generic Resource Needs	10,453	16,766	19,006	20,388	21,707	22,189	23,171	21,661

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 14. Annual Aggregated Energy Resource Accounting Table
No Transmission Case
PG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	96,281	97,658	98,997	100,304	101,766	103,198	104,534	105,894
Load Adjustments for this Scenario(-)	16,794	19,837	23,038	26,370	27,295	27,675	28,031	28,387
Uncommitted Energy Efficiency (2009-2016) (-)	1,680	2,215	2,693	3,246	3,895	4,638	5,365	6,074
Distributed Generation (-)	1,480	1,730	1,930	2,080	2,180	2,280	2,380	2,480
Net Energy Demand for Bundled Customers	76,327	73,875	71,336	68,608	68,396	68,604	68,758	68,953
Firm Sales Obligations	413	413	413	413	413	413	413	413
Total Energy Requirement	76,740	74,288	71,749	69,021	68,809	69,017	69,171	69,366
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:	177	178	171	173	171	174	174	180
Nuclear	15,573	17,546	17,597	16,797	17,584	17,551	16,746	17,624
Fossil	177	178	171	173	171	174	174	180
Total Fossil and Nuclear Energy Supply	15,750	17,724	17,767	16,969	17,755	17,725	16,920	17,804
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate								
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	15,979	15,985	15,998	16,042	15,991	15,834	15,647	15,701
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources	31,730	33,709	33,765	33,011	33,745	33,559	32,567	33,505
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	21,203	3,079	2,482	1,190	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	19,727	19,939	19,873	19,769	19,708	19,592	19,463	19,387
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	519	526	528	528	527	300	66	31
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,585	3,670	2,076	1,063	516	518	429	413
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-10,477	-1,001	-2,479	-3,036	-3,426	-3,257	-2,402	-3,156
TOTAL: EXISTING & PLANNED ENERGY	66,287	59,923	56,245	52,524	51,070	50,713	50,124	50,180
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	5,423	6,481	6,864	7,023	7,105	7,250	7,633	7,746
Other Generic Addition for Energy	5,031	7,885	8,640	9,473	10,634	11,055	11,415	11,440
Total Future Generic Resource Needs	10,453	14,366	15,504	16,496	17,739	18,305	19,047	19,186

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

PG&E did not provide hydro energy data in sub-categories.

Derate for 1-in-5 conditions does not apply to hydro energy.

SCE PLANNING AREA RESULTS

This section provides the aggregation tables for the portion of the CAISO control area defined as the SCE planning area. Table 1 indicates the generic entities whose data are reported in the tables of this section following this explanatory text. POU's include Anaheim, Riverside, and Pasadena. ESPs with loads and resources include APS Energy Services, Constellation/New Energy, Pilot Power, Sempra Energy Solutions, and Strategic Energy.

Aggregated planning area capacity and energy tables

Aggregated planning area tables are reported for four different scenarios for both annual capacity and annual energy, totaling eight tables. These scenarios are:

- Reference Case
- Accelerated Renewables
- Preferred Case
- SCE No DPV2 Case

Among the utilities in this planning area, only SCE provided alternative scenario resource plans, so for the alternative scenarios the POU and ESP reference case resource plans are used to fill out the capacity and energy tables for the whole planning area. Staff constructed the scenario entitled Preferred Case by combining SCE's Alternative Scenario with the reference case of the POU's and ESPs. Staff believes this reflects the collective preferences of the entire set of LSEs submitting resource plans and so it is labeled in that manner. In the three non-Reference cases, only the IOU results differ from the Reference Case.

Annual Capacity Tables

Four annual capacity tables are reported for the aggregation of LSEs that submitted resource plans for the SCE planning area. To summarize the general explanation provided in Section 2, each of these tables can be thought of as adding together the common cell locations of nine LSE-specific tables, e.g. the capacity value reported in the planning area table for LSE-owned fossil resources in year 2009 is the summation of what each of nine separate LSEs reported for fossil capacity in that year.

Annual Energy Tables

Four annual energy tables were constructed for the aggregation of LSEs that submitted resource plans for the SCE planning area. The same approach as was

used for capacity was used for energy when adding together the comparable data from the LSE-specific aggregated table reporting annual, resource-category results.

Aggregated SCE Bundled Customer Annual Energy Table

Aggregated SCE IOU bundled customer annual energy is reported for each of the four scenarios submitted by SCE. The differences between these four scenarios reflect the decisions SCE made in interpreting the Supply Forms and Instructions for the reference case and for the alternative scenarios that they were directed to submit.

SCE prepared a full resource plan for the No DPV2 Case, which the Supply Forms and Instructions directed them to assess. SCE provided a “preferred” case in which a variety of different entries differ from the other cases, both in the adjustments to load and in the resource-categories comprising the majority of each table. Even though SCE labels this case as an Alternative Scenario, the elements of the resource plan would appear to reflect SCE’s preferences for load adjustments and resource additions. That is how staff suggests this case be interpreted.

Annual capacity tables for bundled loads were not prepared due to IOU appeals of the staff-proposed aggregation at this level.

**Table 15. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case
SCE Planning Area, including Anaheim, Pasadena, Riverside, and shares of ESPs**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	24,348	24,794	25,260	25,780	26,403	27,005	27,606	28,108
Load Adjustment for This Scenario(-)	1,926	2,111	2,312	2,495	2,684	2,686	2,673	2,657
Uncommitted Price Sensitive DR Programs (-)	962	963	963	965	971	985	999	1,009
Uncommitted Energy Efficiency (2009-2016) (-)	698	895	1,093	1,354	1,614	1,874	2,134	2,395
Distributed Generation (-)								
Net Peak Demand	20,762	20,825	20,892	20,965	21,134	21,461	21,800	22,048
Net Peak Demand + 15% Planning Reserve Margin	23,830	23,902	23,978	24,062	24,256	24,631	25,020	25,306
Firm Sales Obligations	255	255	255	255	255	255	255	255
Firm Peak Resource Requirement	24,085	24,158	24,234	24,318	24,512	24,887	25,276	25,561
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,390	2,341	2,341	2,341	2,341	2,341	2,321	2,341
Fossil	2,583	2,580	2,578	2,575	2,573	2,507	2,460	2,460
Total Dependable Fossil and Nuclear Capacity	4,972	4,921	4,918	4,916	4,914	4,848	4,781	4,801
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086
Total for all plants 30 MW nameplate or less	172	172	172	172	172	172	172	172
Hydro Derate (-) for 1-in-5 conditions	84	84	84	84	84	84	84	84
Total Dependable Hydro Capacity	1,174	1,174	1,174	1,174	1,174	1,174	1,174	1,174
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	21	21	21	21	1	1	1	1
Total Utility-Controlled Physical Resources	6,168	6,116	6,114	6,111	6,089	6,023	5,957	5,977
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Allegheny	800	800	800					
Centennial (Wind)	15	15	15					
Colton	72	72						
High Desert	730	730						
Sempra (MT 6x16)	400	400	400					
Sempra (MT 7x24)	1,200	1,200	1,200					
Total	3,217	3,217	2,415					
QF Dependable Capacity	3,211	3,211	3,211	3,211	3,211	3,211	3,211	3,211
Renewable Contracts								
	405	412	415	417	425	428	436	444
Other Bilateral Contracts								
	1,261	1,230	1,174	1,179	1,202	1,222	1,233	1,260
Short Term and Spot Market Purchases								
	156	164	173	182	192	209	277	282
TOTAL: EXISTING & PLANNED CAPACITY	14,418	14,351	13,502	11,101	11,119	11,093	11,114	11,174
Existing Interruptible / Emergency (I/E) Programs	1,037	1,037	1,037	1,037	1,037	1,037	1,037	1,037
Uncommitted Dispatchable Demand Response	86	107	129	150	172	193	214	236
TOTAL CAPACITY + I/E and UDDR	15,541	15,495	14,668	12,288	12,327	12,323	12,365	12,447
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	196	326	334	342	386	416	419	426
Capacity for other Generic Resources	8,135	8,078	9,145	11,476	11,583	11,924	12,291	12,487
Total Capacity of Future Generic Resources	8,331	8,404	9,479	11,819	11,969	12,339	12,709	12,913

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

**Table 16. Annual Aggregated Dependable Capacity Resource Accounting Table
SCE Planning Area, including Anaheim, Pasadena, Riverside, and shares of ESPs
Accelerated Renewables Case**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	24,348	24,794	25,260	25,780	26,403	27,005	27,606	28,108
Load Adjustment for This Scenario(-)	1,926	2,111	2,312	2,495	2,684	2,686	2,673	2,657
Uncommitted Price Sensitive DR Programs (-)	962	963	963	965	971	985	999	1,009
Uncommitted Energy Efficiency (2009-2016) (-)	698	895	1,093	1,354	1,614	1,874	2,134	2,395
Distributed Generation (-)								
Net Peak Demand	20,762	20,825	20,892	20,965	21,134	21,461	21,800	22,048
Net Peak Demand + 15% Planning Reserve Margin	23,830	23,902	23,978	24,062	24,256	24,631	25,020	25,306
Firm Sales Obligations	255	255	255	255	255	255	255	255
Firm Peak Resource Requirement	24,085	24,158	24,234	24,318	24,512	24,887	25,276	25,561
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,390	2,341	2,341	2,341	2,341	2,341	2,321	2,341
Fossil	2,583	2,580	2,578	2,575	2,573	2,507	2,460	2,460
Total Dependable Fossil and Nuclear Capacity	4,972	4,921	4,918	4,916	4,914	4,848	4,781	4,801
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086
Total for all plants 30 MW nameplate or less	172	172	172	172	172	172	172	172
Hydro Derate (-) for 1-in-5 conditions	84	84	84	84	84	84	84	84
Total Dependable Hydro Capacity	1,174	1,174	1,174	1,174	1,174	1,174	1,174	1,174
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	21	21	21	21	1	1	1	1
Total Utility-Controlled Physical Resources	6,168	6,116	6,114	6,111	6,089	6,023	5,957	5,977
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Allegheny	800	800	800					
Centennial (Wind)	15	15	15					
Colton	72	72						
High Desert	730	730						
Sempra (MT 6x16)	400	400	400					
Sempra (MT 7x24)	1,200	1,200	1,200					
Total	3,217	3,217	2,415					
QF Dependable Capacity	3,211	3,211	3,211	3,211	3,211	3,211	3,211	3,211
Renewable Contracts	405	412	415	417	425	428	436	444
Other Bilateral Contracts	1,261	1,230	1,174	1,179	1,202	1,222	1,233	1,260
Short Term and Spot Market Purchases	156	164	173	182	192	209	277	282
TOTAL: EXISTING & PLANNED CAPACITY	14,418	14,351	13,502	11,101	11,119	11,093	11,114	11,174
Existing Interruptible / Emergency (I/E) Programs	1,037	1,037	1,037	1,037	1,037	1,037	1,037	1,037
Uncommitted Dispatchable Demand Response	86	107	129	150	172	193	214	236
TOTAL CAPACITY + I/E and UDDR	15,541	15,495	14,668	12,288	12,327	12,323	12,365	12,447
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	962	1,183	1,293	1,375	1,621	1,656	1,912	2,048
Capacity for other Generic Resources	7,369	7,264	8,007	10,444	10,348	10,683	10,832	10,867
Total Capacity of Future Generic Resources	8,331	8,447	9,300	11,819	11,969	12,339	12,743	12,916

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

**Table 17. Annual Aggregated Dependable Capacity Resource Accounting Table
Alternate (or Preferred) Case
SCE Planning Area, including SCE Bundled Loads, Anaheim, Pasadena, Riverside, and shares of ESPs**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	24,348	24,794	25,260	25,780	26,403	27,005	27,606	28,108
Load Adjustment for This Scenario(-)	1,724	1,710	1,706	1,672	1,629	1,616	1,588	1,561
Uncommitted Price Sensitive DR Programs (-)	221	221	221	221	221	221	221	221
Uncommitted Energy Efficiency (2009-2016) (-)	711	844	959	1,141	1,325	1,504	1,682	1,861
Distributed Generation (-)								
Net Peak Demand	21,692	22,020	22,374	22,745	23,228	23,665	24,115	24,464
Net Peak Demand + 15% Planning Reserve Margin	24,900	25,276	25,682	26,109	26,664	27,166	27,683	28,084
Firm Sales Obligations	255	255	255	255	255	255	255	255
Firm Peak Resource Requirement	25,155	25,532	25,938	26,365	26,920	27,422	27,939	28,340
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,337	2,288	2,288	2,288	2,288	2,288	2,268	2,288
Fossil	2,583	2,580	2,578	2,575	2,573	2,507	2,460	2,460
Total Dependable Fossil and Nuclear Capacity	4,920	4,868	4,866	4,864	4,861	4,795	4,729	4,749
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086
Total for all plants 30 MW nameplate or less	172	172	172	172	172	172	172	172
Hydro Derate (-) for 1-in-5 conditions	82	82	82	82	82	82	82	82
Total Dependable Hydro Capacity	1,177	1,177	1,177	1,177	1,177	1,177	1,177	1,177
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	21	21	21	21	1	1	1	1
Total Utility-Controlled Physical Resources	6,118	6,066	6,064	6,062	6,039	5,973	5,907	5,927
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Allegheny	800	800	800					
Centennial (Wind)	15	15	15					
Colton	72	72						
High Desert	730	730						
Sempra (MT 6x16)	400	400	400					
Sempra (MT 7x24)	1,200	1,200	1,200					
Total	3,217	3,217	2,415					
QF Dependable Capacity	3,099	3,080	3,080	3,072	3,066	3,066	3,060	3,025
Renewable Contracts	362	369	372	374	382	384	392	400
Other Bilateral Contracts	1,261	1,230	1,174	1,179	1,202	1,222	1,233	1,260
Short Term and Spot Market Purchases	156	164	173	182	192	209	277	282
TOTAL: EXISTING & PLANNED CAPACITY	14,212	14,126	13,277	10,868	10,881	10,854	10,869	10,894
Existing Interruptible / Emergency (I/E) Programs	1,037	1,037	1,037	1,037	1,037	1,037	1,037	1,037
Uncommitted Dispatchable Demand Response	172	193	214	236	257	279	300	322
TOTAL CAPACITY + I/E and UDDR	15,421	15,355	14,528	12,141	12,175	12,170	12,206	12,253
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	231	364	432	501	575	625	669	724
Capacity for other Generic Resources	9,291	9,554	10,711	13,512	13,955	14,402	14,863	15,162
Total Capacity of Future Generic Resources	9,521	9,917	11,143	14,013	14,530	15,027	15,531	15,886

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

**Table 18. Annual Aggregated Dependable Capacity Resource Accounting Table
No Transmission Case
SCE Planning Area, including Anaheim, Pasadena, Riverside, and shares of ESPs**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	24,348	24,794	25,260	25,780	26,403	27,005	27,606	28,108
Load Adjustment for This Scenario(-)	1,926	2,111	2,312	2,495	2,684	2,686	2,673	2,657
Uncommitted Price Sensitive DR Programs (-)	962	963	963	965	971	985	999	1,009
Uncommitted Energy Efficiency (2009-2016) (-)	698	895	1,093	1,354	1,614	1,874	2,134	2,395
Distributed Generation (-)								
Net Peak Demand	20,762	20,825	20,892	20,965	21,134	21,461	21,800	22,048
Net Peak Demand + 15% Planning Reserve Margin	23,830	23,902	23,978	24,062	24,256	24,631	25,020	25,306
Firm Sales Obligations	255	255	255	255	255	255	255	255
Firm Peak Resource Requirement	24,085	24,158	24,234	24,318	24,512	24,887	25,276	25,561
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	2,390	2,341	2,341	2,341	2,341	2,341	2,321	2,341
Fossil	2,583	2,580	2,578	2,575	2,573	2,507	2,460	2,460
Total Dependable Fossil and Nuclear Capacity	4,972	4,921	4,918	4,916	4,914	4,848	4,781	4,801
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086
Total for all plants 30 MW nameplate or less	172	172	172	172	172	172	172	172
Hydro Derate (-) for 1-in-5 conditions	84	84	84	84	84	84	84	84
Total Dependable Hydro Capacity	1,174	1,174	1,174	1,174	1,174	1,174	1,174	1,174
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	21	21	21	21	1	1	1	1
Total Utility-Controlled Physical Resources	6,168	6,116	6,114	6,111	6,089	6,023	5,957	5,977
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Allegheny	800	800	800					
Centennial (Wind)	15	15	15					
Colton	72	72						
High Desert	730	730						
Sempra (MT 6x16)	400	400	400					
Sempra (MT 7x24)	1,200	1,200	1,200					
Total	3,217	3,217	2,415					
QF Dependable Capacity	3,211	3,211	3,211	3,211	3,211	3,211	3,211	3,211
Renewable Contracts	405	412	415	417	425	428	436	444
Other Bilateral Contracts	1,261	1,230	1,174	1,179	1,202	1,222	1,233	1,260
Short Term and Spot Market Purchases	156	164	173	182	192	209	277	282
TOTAL: EXISTING & PLANNED CAPACITY	14,418	14,351	13,502	11,101	11,119	11,093	11,114	11,174
Existing Interruptible / Emergency (I/E) Programs	1,037	1,037	1,037	1,037	1,037	1,037	1,037	1,037
Uncommitted Dispatchable Demand Response	86	107	129	150	172	193	214	236
TOTAL CAPACITY + I/E and UDDR	15,541	15,495	14,668	12,288	12,327	12,323	12,365	12,447
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	196	326	334	342	386	416	419	426
Capacity for other Generic Resources	8,135	8,078	9,145	11,476	11,583	11,924	12,291	12,487
Total Capacity of Future Generic Resources	8,331	8,404	9,479	11,819	11,969	12,339	12,709	12,913

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 19. Annual Aggregated Energy Resource Accounting Table
Reference Case
SCE Planning Area, including SCE Bundled Loads, Anaheim, Pasadena, Riverside, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	113,576	115,608	117,670	120,301	122,921	125,624	128,375	130,979
Load Adjustments for this Scenario(-)	12,833	13,617	14,433	15,267	16,142	16,085	16,030	15,967
Uncommitted Energy Efficiency (2009-2016) (-)	3,096	4,013	4,939	6,186	7,421	8,656	9,890	11,125
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	97,647	97,978	98,298	98,847	99,358	100,882	102,454	103,887
Firm Sales Obligations	2,382	2,385	2,339	2,319	2,312	2,311	2,295	2,250
Total Energy Requirement	100,029	100,363	100,637	101,166	101,670	103,194	104,750	106,137
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	14,032	13,528	14,408	15,073	14,735	13,928	14,272	13,862
Fossil	16,924	16,233	17,998	17,871	17,902	17,922	17,682	17,696
Total Fossil and Nuclear Energy Supply	30,956	29,762	32,406	32,944	32,636	31,850	31,955	31,558
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,112	4,108	4,138	4,030	4,024	4,035	4,058	4,075
Total for all plants 30 MW nameplate or less	703	703	703	703	703	703	703	703
Total Hydro Energy Supply	4,815	4,811	4,841	4,733	4,727	4,738	4,761	4,778
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	171	171	171	171	73	4	4	4
Total Utility-Controlled Physical Resources								
	35,943	34,743	37,418	37,847	37,437	36,592	36,720	36,340
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	25,033	24,993	24,956	24,987	24,892	24,864	24,838	24,879
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	3,624	3,695	3,770	3,837	3,913	4,001	4,095	4,224
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	27,163	26,908	19,841	5,258	5,359	5,449	5,548	5,586
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-1,947	-1,556	-355	1,879	1,952	1,384	338	1,495
TOTAL: EXISTING & PLANNED ENERGY								
	93,034	92,000	88,045	73,808	73,553	72,289	71,540	72,523
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	1,827	2,137	2,173	2,236	2,530	2,862	2,878	2,934
Other Generic Addition for Energy	4,386	5,300	9,499	24,285	24,722	27,239	29,547	29,972
Total Future Generic Resource Needs	6,213	7,437	11,673	26,521	27,252	30,102	32,425	32,906

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 20. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
SCE Planning Area, including SCE Bundled Loads, Anaheim, Pasadena, Riverside, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	113,576	115,608	117,670	120,301	122,921	125,624	128,375	130,979
Load Adjustments for this Scenario(-)	12,833	13,617	14,433	15,267	16,142	16,085	16,030	15,967
Uncommitted Energy Efficiency (2009-2016) (-)	3,096	4,013	4,939	6,186	7,421	8,656	9,890	11,125
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	97,647	97,978	98,298	98,847	99,358	100,882	102,454	103,887
Firm Sales Obligations	2,382	2,385	2,339	2,319	2,312	2,311	2,295	2,250
Total Energy Requirement	100,029	100,363	100,637	101,166	101,670	103,194	104,750	106,137
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	16,924	16,233	17,998	17,871	17,902	17,921	17,682	17,696
Fossil	14,042	13,422	14,079	14,839	14,309	13,816	14,087	13,602
Total Fossil and Nuclear Energy Supply	30,966	29,655	32,077	32,709	32,211	31,737	31,770	31,297
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,107	4,118	4,092	4,023	4,031	4,009	4,050	4,039
Total for all plants 30 MW nameplate or less	703	703	703	703	703	703	703	703
Total Hydro Energy Supply	4,810	4,822	4,796	4,726	4,734	4,712	4,754	4,742
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	171	171	171	171	73	4	4	4
Total Utility-Controlled Physical Resources								
	35,947	34,648	37,044	37,606	37,018	36,454	36,527	36,044
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	25,033	24,993	24,956	24,987	24,892	24,864	24,838	24,879
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	3,624	3,695	3,770	3,837	3,913	4,001	4,095	4,224
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	27,163	26,908	19,841	5,258	5,359	5,449	5,548	5,586
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-3,212	-3,079	-1,955	1,894	1,521	2,513	1,034	1,643
TOTAL: EXISTING & PLANNED ENERGY								
	91,772	90,382	86,070	73,583	72,703	73,280	72,042	72,376
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	4,835	5,855	6,679	7,377	9,234	9,615	10,734	11,849
Other Generic Addition for Energy	2,753	3,343	6,926	19,360	18,876	19,463	21,179	21,159
Total Future Generic Resource Needs	7,588	9,198	13,605	26,738	28,110	29,077	31,913	33,008

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 21. Annual Aggregated Energy Resource Accounting Table
Alternate (or Preferred) Case
SCE Planning Area, including SCE Bundled Loads, Anaheim, Pasadena, Riverside, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	113,576	115,608	117,670	120,301	122,921	125,624	128,375	130,979
Load Adjustments for this Scenario(-)	11,904	11,815	11,753	11,650	11,553	11,462	11,370	11,278
Uncommitted Energy Efficiency (2009-2016) (-)	3,466	4,107	4,544	5,285	5,974	6,629	7,283	7,938
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	98,206	99,687	101,372	103,366	105,394	107,533	109,722	111,763
Firm Sales Obligations	2,382	2,385	2,339	2,319	2,312	2,311	2,295	2,250
Total Energy Requirement	100,588	102,072	103,712	105,685	107,707	109,845	112,017	114,013
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	16,580	15,898	17,612	17,488	17,519	17,537	17,304	17,318
Fossil	14,752	14,535	14,628	15,487	15,324	14,933	15,229	15,007
Total Fossil and Nuclear Energy Supply	31,332	30,433	32,239	32,975	32,843	32,470	32,534	32,326
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,178	4,199	4,186	4,157	4,119	4,089	4,111	4,078
Total for all plants 30 MW nameplate or less	712	712	712	712	712	712	712	712
Total Hydro Energy Supply	4,890	4,911	4,899	4,869	4,831	4,802	4,823	4,790
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	171	171	171	171	73	4	4	4
Total Utility-Controlled Physical Resources								
	36,393	35,515	37,309	38,015	37,747	37,276	37,361	37,120
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	23,834	23,581	23,479	23,451	23,346	23,303	23,208	23,014
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	3,222	3,292	3,367	3,434	3,510	3,595	3,688	3,817
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	27,618	27,386	19,867	5,258	5,359	5,449	5,548	5,586
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	553	2,057	761	3,004	3,797	4,884	3,910	5,127
TOTAL: EXISTING & PLANNED ENERGY								
	94,837	95,049	87,199	73,161	73,759	74,507	73,716	74,663
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	2,290	2,628	3,138	3,677	4,204	4,694	5,025	5,474
Other Generic Addition for Energy	2,761	3,585	12,517	28,168	29,000	29,911	32,558	33,171
Total Future Generic Resource Needs	5,051	6,213	15,654	31,845	33,204	34,605	37,582	38,645

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 22. Annual Aggregated Energy Resource Accounting Table
No DPV2 Case
SCE Planning Area, including SCE Bundled Loads, Anaheim, Pasadena, Riverside, and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	113,576	115,608	117,670	120,301	122,921	125,624	128,375	130,979
Load Adjustments for this Scenario(-)	12,833	13,617	14,433	15,267	16,142	16,085	16,030	15,967
Uncommitted Energy Efficiency (2009-2016) (-)	3,096	4,013	4,939	6,186	7,421	8,656	9,890	11,125
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	97,647	97,978	98,298	98,847	99,358	100,882	102,454	103,887
Firm Sales Obligations	2,382	2,385	2,339	2,319	2,312	2,311	2,295	2,250
Total Energy Requirement	100,029	100,363	100,637	101,166	101,670	103,194	104,749	106,137
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	16,924	16,233	17,998	17,871	17,902	17,921	17,682	17,696
Fossil	14,064	13,580	14,500	15,131	14,820	14,007	14,329	13,923
Total Fossil and Nuclear Energy Supply	30,988	29,813	32,499	33,001	32,722	31,929	32,011	31,619
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,106	4,103	4,137	4,030	4,024	4,035	4,059	4,075
Total for all plants 30 MW nameplate or less	703	703	703	703	703	703	703	703
Total Hydro Energy Supply	4,809	4,806	4,840	4,733	4,727	4,738	4,763	4,778
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	171	171	171	171	73	4	4	4
Total Utility-Controlled Physical Resources								
	35,968	34,790	37,509	37,905	37,522	36,671	36,778	36,401
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	25,033	24,993	24,956	24,987	24,892	24,864	24,838	24,879
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	3,624	3,695	3,770	3,837	3,913	4,001	4,095	4,224
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	27,162	26,948	19,847	5,258	5,359	5,449	5,548	5,585
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-2,348	-2,003	-780	1,168	1,187	406	-592	193
TOTAL: EXISTING & PLANNED ENERGY								
	92,657	91,641	87,717	73,155	72,873	71,391	70,667	71,282
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	1,827	2,137	2,173	2,235	2,530	2,862	2,878	2,934
Other Generic Addition for Energy	4,754	5,653	9,825	24,938	25,401	28,138	30,421	31,212
Total Future Generic Resource Needs	6,582	7,790	11,998	27,174	27,931	31,000	33,299	34,146

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 23. Annual Aggregated Energy Resource Accounting Table
Reference Case
SCE Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	100,106	101,841	103,552	105,979	108,220	110,544	112,900	115,082
Load Adjustments for this Scenario(-)	12,833	13,617	14,433	15,267	16,142	16,085	16,030	15,967
Uncommitted Energy Efficiency (2009-2016) (-)	3,096	4,013	4,939	6,186	7,421	8,656	9,890	11,125
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	84,177	84,211	84,180	84,526	84,657	85,802	86,980	87,991
Firm Sales Obligations	2,144	2,144	2,144	2,151	2,144	2,144	2,144	2,151
Total Energy Requirement	86,322	86,356	86,325	86,677	86,802	87,947	89,124	90,141
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	16,234	15,862	17,596	17,469	17,520	17,509	17,280	17,293
Fossil	9,671	9,095	10,063	10,610	10,280	9,534	9,859	9,414
Total Fossil and Nuclear Energy Supply	25,905	24,957	27,659	28,079	27,800	27,043	27,139	26,707
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,014	4,010	4,040	3,931	3,926	3,937	3,960	3,977
Total for all plants 30 MW nameplate or less	665	665	665	665	665	665	665	665
Total Hydro Energy Supply	4,679	4,675	4,705	4,597	4,591	4,602	4,625	4,642
Total Utility-Controlled Physical Resources	30,584	29,632	32,364	32,675	32,391	31,645	31,764	31,349
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	25,033	24,993	24,956	24,987	24,892	24,864	24,838	24,879
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	2,841	2,841	2,841	2,848	2,841	2,841	2,841	2,848
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	23,080	23,148	16,094	1,406	1,406	1,388	1,383	1,384
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-2,900	-2,836	-1,538	713	714	78	-1,009	17
TOTAL: EXISTING & PLANNED ENERGY	81,856	80,994	77,132	62,629	62,244	60,815	59,817	60,476
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	1,622	1,896	1,896	1,900	2,071	2,302	2,302	2,342
Other Generic Addition for Energy	3,081	3,696	7,565	22,280	22,610	24,967	27,174	27,513
Total Future Generic Resource Needs	4,702	5,591	9,461	24,179	24,681	27,269	29,476	29,855

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 24. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
SCE Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	100,106	101,841	103,552	105,979	108,220	110,544	112,900	115,082
Load Adjustments for this Scenario(-)	12,833	13,617	14,433	15,267	16,142	16,085	16,030	15,967
Uncommitted Energy Efficiency (2009-2016) (-)	3,096	4,013	4,939	6,186	7,421	8,656	9,890	11,125
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	84,177	84,211	84,180	84,526	84,657	85,802	86,980	87,991
Firm Sales Obligations	2,144	2,144	2,144	2,151	2,144	2,144	2,144	2,151
Total Energy Requirement	86,322	86,356	86,325	86,677	86,802	87,947	89,124	90,141
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	16,234	15,862	17,596	17,468	17,520	17,509	17,280	17,293
Fossil	9,681	8,989	9,735	10,376	9,854	9,422	9,674	9,154
Total Fossil and Nuclear Energy Supply	25,915	24,851	27,331	27,844	27,374	26,931	26,954	26,447
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,009	4,020	3,994	3,925	3,932	3,911	3,952	3,941
Total for all plants 30 MW nameplate or less	665	665	665	665	665	665	665	665
Total Hydro Energy Supply	4,674	4,685	4,660	4,590	4,598	4,576	4,617	4,606
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	30,588	29,536	31,990	32,434	31,972	31,507	31,571	31,053
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	25,033	24,993	24,956	24,987	24,892	24,864	24,838	24,879
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	2,841	2,841	2,841	2,848	2,841	2,841	2,841	2,848
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	22,960	23,018	16,078	1,406	1,406	1,388	1,383	1,383
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-4,166	-4,359	-3,138	729	284	1,207	-314	166
TOTAL: EXISTING & PLANNED ENERGY	80,474	79,246	75,142	62,404	61,394	61,806	60,319	60,329
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	4,630	5,613	6,401	7,042	8,774	9,054	10,158	11,257
Other Generic Addition for Energy	1,448	1,739	4,992	17,355	16,765	17,191	18,806	18,700
Total Future Generic Resource Needs	6,077	7,352	11,394	24,396	25,539	26,245	28,963	29,957

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 25. Annual Aggregated Energy Resource Accounting Table
Alternate (or Preferred) Case
SCE Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	100,106	101,841	103,552	105,979	108,220	110,544	112,900	115,082
Load Adjustments for this Scenario(-)	11,904	11,815	11,753	11,650	11,553	11,462	11,370	11,278
Uncommitted Energy Efficiency (2009-2016) (-)	3,466	4,107	4,544	5,285	5,974	6,629	7,283	7,938
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	84,736	85,920	87,255	89,044	90,693	92,453	94,247	95,866
Firm Sales Obligations	2,144	2,144	2,144	2,151	2,144	2,144	2,144	2,151
Total Energy Requirement	86,881	88,064	89,399	91,195	92,838	94,598	96,392	98,017
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	15,890	15,527	17,209	17,086	17,137	17,125	16,902	16,916
Fossil	10,390	10,101	10,283	11,024	10,869	10,539	10,816	10,559
Total Fossil and Nuclear Energy Supply	26,280	25,628	27,492	28,110	28,006	27,664	27,718	27,475
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,080	4,101	4,088	4,059	4,020	3,991	4,012	3,980
Total for all plants 30 MW nameplate or less	674	674	674	674	674	674	674	674
Total Hydro Energy Supply	4,754	4,775	4,763	4,733	4,695	4,665	4,687	4,654
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	31,034	30,403	32,255	32,843	32,701	32,329	32,404	32,129
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	23,834	23,581	23,479	23,451	23,346	23,303	23,208	23,014
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	2,438	2,438	2,438	2,445	2,438	2,435	2,434	2,441
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	23,536	23,626	16,120	1,406	1,406	1,388	1,383	1,383
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-401	777	-422	1,838	2,559	3,578	2,563	3,649
TOTAL: EXISTING & PLANNED ENERGY								
	83,659	84,042	76,286	61,982	62,449	63,033	61,993	62,616
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	2,085	2,387	2,860	3,342	3,744	4,133	4,449	4,882
Other Generic Addition for Energy	1,456	1,981	10,583	26,162	26,889	27,639	30,184	30,712
Total Future Generic Resource Needs	3,540	4,368	13,443	29,504	30,633	31,772	34,633	35,594

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 26. Annual Aggregated Energy Resource Accounting Table
No Transmission Case
SCE Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	100,106	101,841	103,552	105,979	108,220	110,544	112,900	115,082
Load Adjustments for this Scenario(-)	12,833	13,617	14,433	15,267	16,142	16,085	16,030	15,967
Uncommitted Energy Efficiency (2009-2016) (-)	3,096	4,013	4,939	6,186	7,421	8,656	9,890	11,125
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	84,177	84,211	84,180	84,526	84,657	85,802	86,980	87,991
Firm Sales Obligations	2,144	2,144	2,144	2,151	2,144	2,144	2,144	2,151
Total Energy Requirement	86,322	86,356	86,325	86,677	86,802	87,947	89,124	90,141
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	16,234	15,862	17,596	17,468	17,520	17,509	17,280	17,293
Fossil	9,703	9,146	10,156	10,668	10,365	9,613	9,915	9,475
Total Fossil and Nuclear Energy Supply	25,937	25,008	27,752	28,136	27,885	27,122	27,196	26,769
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	4,008	4,005	4,039	3,931	3,926	3,937	3,961	3,976
Total for all plants 30 MW nameplate or less	665	665	665	665	665	665	665	665
Total Hydro Energy Supply	4,673	4,670	4,704	4,597	4,591	4,602	4,626	4,641
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	30,610	29,678	32,455	32,733	32,476	31,724	31,822	31,410
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	3,217	3,217	2,415	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	25,033	24,993	24,956	24,987	24,892	24,864	24,838	24,879
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	2,841	2,841	2,841	2,848	2,841	2,841	2,841	2,848
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	23,080	23,188	16,100	1,406	1,406	1,388	1,383	1,383
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	-3,301	-3,282	-1,962	3	-51	-900	-1,939	-1,285
TOTAL: EXISTING & PLANNED ENERGY								
	81,479	80,634	76,805	61,976	61,564	59,917	58,945	59,235
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	1,622	1,896	1,896	1,900	2,071	2,302	2,302	2,342
Other Generic Addition for Energy	3,449	4,049	7,891	22,933	23,290	25,866	28,048	28,753
Total Future Generic Resource Needs	5,071	5,944	9,787	24,832	25,361	28,168	30,350	31,095

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

Pumped storage hydro plants are included in the over 30 MW category.

Derate for 1-in-5 conditions does not apply to hydro energy.

SDG&E PLANNING AREA RESULTS

This section provides the aggregation tables for the portion of the CAISO control area defined as the SDG&E planning area. Table 1 indicates the generic entities whose data are reported in the tables of this section following this explanatory text. There are no POU's in the SDG&E planning area. ESPs with loads and resources include APS Energy Services, Constellation/New Energy, Pilot Power, Sempra Energy Solutions, and Strategic Energy.

Aggregated Planning Area Capacity and Energy Tables

Aggregated planning area tables are reported for four different scenarios for both annual capacity and annual energy, totaling eight tables. These scenarios are:

- Reference Case
- Accelerated Renewables
- Preferred Case
- SDG&E No Transmission Case

Among the utilities in this planning area, only SDG&E provided alternative scenario resource plans, so for the alternative scenarios the ESP reference case resource plans are used to fill out the capacity and energy tables for the whole planning area. Staff constructed the composite scenario entitled Preferred Case using SDG&E's Alternative Scenario and the reference case of the several ESPs. Staff believes this scenario reflects the collective preferences of the entire set of LSEs submitting resource plans. In the three non-Reference cases, only the SDG&E results differ from the Reference Case.

Annual Capacity Tables

Four annual capacity tables are reported for the aggregation of LSEs that submitted resource plans for the SDG&E planning area. To summarize the general explanation provided in Section 2, each of these tables can be thought of as adding together the common cell locations of six LSE-specific tables, e.g. the capacity value reported in the planning area table for LSE-owned fossil resources in year 2009 is the summation of what each of six separate LSEs reported for fossil capacity in that year.

Annual Energy Tables

Four annual energy tables were constructed for the aggregation of LSEs that submitted resource plans for the SDG&E planning area. The same approach as was

used for capacity was used for energy when adding together the comparable data from the LSE-specific aggregated table reporting annual, resource-category results.

Aggregated SDG&E Bundled Customer Annual Energy Table

Aggregated SDG&E IOU bundled customer annual energy is reported for each of the four scenarios submitted by SDG&E. The differences between these four scenarios reflect the decisions SDG&E made in interpreting the Supply Forms and Instructions for the reference case and for the alternative scenarios that they were directed to submit.

SDG&E prepared a full resource plan for the No Transmission Case, which the Supply Forms and Instructions directed them to assess. This case is built around a hypothetical transmission project that has not been fully developed or filed as an application at the CPUC.

SDG&E also provided a “preferred” case in which a variety of different entries differ from the other cases, both in the adjustments to load and in the resource-categories comprising the majority of each table. Even though SDG&E labels this case as an Alternative Scenario, the elements of the resource plan would appear to reflect SDG&E’s preferences for load adjustments and resource additions. That is how staff suggests this case be interpreted.

Annual capacity tables for bundled loads were not prepared due to IOU appeals of the staff-proposed aggregation at this level.

**Table 27. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	4,784	4,928	5,069	5,205	5,336	5,487	5,647	5,799
Load Adjustment for This Scenario(-)	785	792	800	809	820	830	838	846
Uncommitted Price Sensitive DR Programs (-)	189	192	196	200	203	207	211	215
Uncommitted Energy Efficiency (2009-2016) (-)	30	86	137	182	223	280	342	405
Distributed Generation (-)	12	14	16	18	20	22	24	26
Net Peak Demand	3,769	3,844	3,919	3,996	4,070	4,149	4,232	4,307
Net Peak Demand + 15% Planning Reserve Margin	4,334	4,420	4,507	4,596	4,680	4,771	4,867	4,953
Firm Sales Obligations								
Firm Peak Resource Requirement	4,334	4,420	4,507	4,596	4,680	4,771	4,867	4,953
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	377	311	311	311	311	311	311	311
Fossil	588	588	588	588	588	588	588	588
Total Dependable Fossil and Nuclear Capacity	965	898	898	898	898	898	898	898
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	40	40	40	40	40	40	40	40
Total for all plants 30 MW nameplate or less								
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	40	40	40	40	40	40	40	40
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity								
Total Utility-Controlled Physical Resources	1,005	938	938	938	938	938	938	938
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Calpeak Border	45	45	45					
Calpeak El Cajon	42	42	42					
Calpeak Escondido	45	45	45					
Sunrise I	560	560	560					
Whitewater Energy Corp Cabazon	11	11	11	11	11			
Whitewater Energy Corp Whitewater Hill	15	15	15	15	15			
Williams Contract (B)	275	275						
Williams Contract (C)	50	50						
Williams Contract (D) - Alamitos 1	175	175						
Williams Contract (D) - Alamitos 5	485	485						
Williams Contract (D) - Huntington Beach 1	225	225						
Williams Contract (D) - Redondo Beach 6	175	175						
Total	2,103	2,103	718	26	26			
QF Dependable Capacity	221	221	221	221	221	221	221	221
Renewable Contracts	120	120	116	116	107	105	104	105
Other Bilateral Contracts	720	724	727	731	735	651	656	661
Short Term and Spot Market Purchases	15	16	17	18	18	19	20	21
TOTAL: EXISTING & PLANNED CAPACITY	4,183	4,122	2,737	2,050	2,046	1,935	1,940	1,946
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response	86	86	86	86	86	86	86	86
TOTAL CAPACITY + I/E and UDDR	4,269	4,208	2,823	2,136	2,132	2,021	2,026	2,032
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	66	428	481	513	557	566	572	580
Capacity for other Generic Resources	11	12	1,147	1,892	1,938	2,126	2,212	2,286
Total Capacity of Future Generic Resources	77	440	1,627	2,406	2,495	2,692	2,783	2,866

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

**Table 28. Annual Aggregated Dependable Capacity Resource Accounting Table
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs
Accelerated Renewables Case**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	4,784	4,928	5,069	5,205	5,336	5,487	5,647	5,799
Load Adjustment for This Scenario(-)	785	792	800	809	820	830	838	846
Uncommitted Price Sensitive DR Programs (-)	189	192	196	200	203	207	211	215
Uncommitted Energy Efficiency (2009-2016) (-)	30	86	137	182	223	280	342	405
Distributed Generation (-)	12	14	16	18	20	22	24	26
Net Peak Demand	3,769	3,844	3,919	3,996	4,070	4,149	4,232	4,307
Net Peak Demand + 15% Planning Reserve Margin	4,334	4,420	4,507	4,596	4,680	4,771	4,867	4,953
Firm Sales Obligations								
Firm Peak Resource Requirement	4,334	4,420	4,507	4,596	4,680	4,771	4,867	4,953
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	377	311	311	311	311	311	311	311
Fossil	588	588	588	588	588	588	588	588
Total Dependable Fossil and Nuclear Capacity	965	898	898	898	898	898	898	898
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	40	40	40	40	40	40	40	40
Total for all plants 30 MW nameplate or less								
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	40	40	40	40	40	40	40	40
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity								
Total Utility-Controlled Physical Resources	1,005	938	938	938	938	938	938	938
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Calpeak Border	45	45	45					
Calpeak El Cajon	42	42	42					
Calpeak Escondido	45	45	45					
Sunrise 1	560	560	560					
Whitewater Energy Corp Cabazon	11	11	11	11	11			
Whitewater Energy Corp Whitewater Hill	15	15	15	15	15			
Williams Contract (B)	275	275						
Williams Contract (C)	50	50						
Williams Contract (D) - Alamitos 1	175	175						
Williams Contract (D) - Alamitos 5	485	485						
Williams Contract (D) - Huntington Beach 1	225	225						
Williams Contract (D) - Redondo Beach 6	175	175						
Total	2,103	2,103	718	26	26			
QF Dependable Capacity	221	221	221	221	221	221	221	221
Renewable Contracts	120	120	116	116	107	105	104	105
Other Bilateral Contracts	720	724	727	731	735	651	656	661
Short Term and Spot Market Purchases	15	16	17	18	18	19	20	21
TOTAL: EXISTING & PLANNED CAPACITY	4,183	4,122	2,737	2,050	2,046	1,935	1,940	1,946
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response	86	86	86	86	86	86	86	86
TOTAL CAPACITY + I/E and UDDR	4,269	4,208	2,823	2,136	2,132	2,021	2,026	2,032
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	66	428	546	567	601	647	689	728
Capacity for other Generic Resources	11	12	1,082	1,838	1,894	2,045	2,095	2,139
Total Capacity of Future Generic Resources	77	440	1,627	2,406	2,495	2,692	2,784	2,866

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 29. Annual Aggregated Dependable Capacity Resource Accounting Table
Alternate (or Preferred) Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	4,784	4,928	5,069	5,205	5,336	5,487	5,647	5,799
Load Adjustment for This Scenario(-)	628	632	637	642	650	657	662	667
Uncommitted Price Sensitive DR Programs (-)	293	361	369	376	384	391	399	407
Uncommitted Energy Efficiency (2009-2016) (-)	30	86	137	182	223	280	342	405
Distributed Generation (-)	12	14	16	18	20	22	24	26
Net Peak Demand	3,822	3,835	3,910	3,986	4,059	4,138	4,221	4,294
Net Peak Demand + 15% Planning Reserve Margin	3,822	3,835	3,910	3,986	4,059	4,138	4,221	4,294
Firm Sales Obligations								
Firm Peak Resource Requirement	3,822	3,835	3,910	3,986	4,059	4,138	4,221	4,294
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	377	311	311	311	311	311	311	311
Fossil	588	588	588	588	588	588	588	588
Total Dependable Fossil and Nuclear Capacity	965	898	898	898	898	898	898	898
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	40	40	40	40	40	40	40	40
Total for all plants 30 MW nameplate or less								
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	40	40	40	40	40	40	40	40
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity								
Total Utility-Controlled Physical Resources	1,005	938	938	938	938	938	938	938
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Calpeak Border	45	45	45					
Calpeak El Cajon	42	42	42					
Calpeak Escondido	45	45	45					
Whitewater Energy Corp Cabazon	11	11	11	11	11			
Whitewater Energy Corp Whitewater Hill	15	15	15	15	15			
Williams Contract (B)	275	275						
Williams Contract (C)	50	50						
Williams Contract (D) - Alamitos 1	175	175						
Williams Contract (D) - Alamitos 5	485	485						
Williams Contract (D) - Huntington Beach 1	225	225						
Williams Contract (D) - Redondo Beach 6	175	175						
Total	1,543	1,543	158	26	26			
QF Dependable Capacity	221	221	221	221	221	221	221	221
Renewable Contracts	120	120	116	116	107	105	104	105
Other Bilateral Contracts	720	724	727	731	735	651	656	661
Short Term and Spot Market Purchases	15	16	17	18	18	19	20	21
TOTAL: EXISTING & PLANNED CAPACITY	3,623	3,562	2,177	2,050	2,046	1,935	1,940	1,946
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response	86	86	86	86	86	86	86	86
TOTAL CAPACITY + I/E and UDDR	3,709	3,648	2,263	2,136	2,132	2,021	2,026	2,032
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	69	470	588	615	655	681	718	748
Capacity for other Generic Resources	562	262	1,589	1,779	1,828	1,998	2,053	2,104
Total Capacity of Future Generic Resources	631	732	2,176	2,395	2,483	2,679	2,771	2,851

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 30. Annual Aggregated Dependable Capacity Resource Accounting Table
No Transmission Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	4,784	4,928	5,069	5,205	5,336	5,487	5,647	5,799
Load Adjustment for This Scenario(-)	785	792	800	809	820	830	838	846
Uncommitted Price Sensitive DR Programs (-)	189	192	196	200	203	207	211	215
Uncommitted Energy Efficiency (2009-2016) (-)	30	86	137	182	223	280	342	405
Distributed Generation (-)	12	14	16	18	20	22	24	26
Net Peak Demand	3,769	3,844	3,919	3,996	4,070	4,149	4,232	4,307
Net Peak Demand + 15% Planning Reserve Margin	4,334	4,420	4,507	4,596	4,680	4,771	4,867	4,953
Firm Sales Obligations								
Firm Peak Resource Requirement	4,334	4,420	4,507	4,596	4,680	4,771	4,867	4,953
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	377	311	311	311	311	311	311	311
Fossil	588	588	588	588	588	588	588	588
Total Dependable Fossil and Nuclear Capacity	965	898	898	898	898	898	898	898
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	40	40	40	40	40	40	40	40
Total for all plants 30 MW nameplate or less								
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	40	40	40	40	40	40	40	40
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity								
Total Utility-Controlled Physical Resources	1,005	938	938	938	938	938	938	938
EXISTING & PLANNED CONTRACTUAL RESOURCES								
DWR Contracts:								
Calpeak Border	45	45	45					
Calpeak El Cajon	42	42	42					
Calpeak Escondido	45	45	45					
Sunrise 1	560	560	560					
Whitewater Energy Corp Cabazon	11	11	11	11	11			
Whitewater Energy Corp Whitewater Hill	15	15	15	15	15			
Williams Contract (B)	275	275						
Williams Contract (C)	50	50						
Williams Contract (D) - Alamitos 1	175	175						
Williams Contract (D) - Alamitos 5	485	485						
Williams Contract (D) - Huntington Beach 1	225	225						
Williams Contract (D) - Redondo Beach 6	175	175						
Total	2,103	2,103	718	26	26			
QF Dependable Capacity	221	221	221	221	221	221	221	221
Renewable Contracts								
	120	120	116	116	107	105	104	105
Other Bilateral Contracts								
	720	724	727	731	735	651	656	661
Short Term and Spot Market Purchases								
	15	16	17	18	18	19	20	21
TOTAL: EXISTING & PLANNED CAPACITY	4,183	4,122	2,737	2,050	2,046	1,935	1,940	1,946
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response	86	86	86	86	86	86	86	86
TOTAL CAPACITY + I/E and UDDR	4,269	4,208	2,823	2,136	2,132	2,021	2,026	2,032
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	118	229	282	292	352	355	385	392
Capacity for other Generic Resources	11	62	1,346	2,114	2,143	2,337	2,399	2,474
Total Capacity of Future Generic Resources	129	291	1,627	2,406	2,495	2,692	2,783	2,866

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Pumped storage hydro plants are included in the over 30 MW category.

The Firm Peak Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Some LSEs reported more or less than 15% reserve for some years.

Table 31. Annual Aggregated Energy Resource Accounting Table
Reference Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	23,844	24,565	25,274	26,035	26,659	27,434	28,238	29,107
Load Adjustments for this Scenario(-)	4,587	4,634	4,681	4,744	4,783	4,837	4,889	4,953
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	19,068	19,456	19,841	20,288	20,648	21,079	21,515	21,998
Firm Sales Obligations								
Total Energy Requirement	19,068	19,456	19,841	20,288	20,648	21,079	21,515	21,998
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	4,003	3,956	3,869	3,931	3,962	3,993	4,016	4,087
Total Fossil and Nuclear Energy Supply	7,167	6,294	6,423	6,494	6,348	6,708	6,410	6,649
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-17	-15	-15	-15	-16	-16	-15	-14
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-17	-15	-15	-15	-16	-16	-15	-14
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	7,150	6,279	6,408	6,479	6,333	6,692	6,395	6,635
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,718	1,718	1,716	1,716	1,714	1,713	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,072	1,075	1,059	1,062	1,010	993	999	1,015
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	5,607	5,094	4,658	3,499	2,716	1,985	1,922	2,231
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	654	544	-992	-296	745	1,274	1,669	1,216
TOTAL: EXISTING & PLANNED ENERGY								
	17,764	16,270	12,818	12,428	12,484	12,622	12,666	12,777
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	574	2,453	2,568	2,650	2,788	2,882	2,943	3,045
Other Generic Addition for Energy	55	58	3,779	4,534	4,700	4,900	5,230	5,500
Total Future Generic Resource Needs	629	2,511	6,347	7,184	7,488	7,782	8,173	8,545

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 32. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	23,844	24,565	25,274	26,035	26,659	27,434	28,238	29,107
Load Adjustments for this Scenario(-)	4,587	4,634	4,681	4,744	4,783	4,837	4,889	4,953
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	19,068	19,456	19,841	20,288	20,648	21,079	21,515	21,998
Firm Sales Obligations								
Total Energy Requirement	19,068	19,456	19,841	20,288	20,648	21,079	21,515	21,998
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	4,003	3,956	3,866	3,920	3,947	3,967	3,974	4,049
Total Fossil and Nuclear Energy Supply	7,167	6,294	6,420	6,483	6,333	6,682	6,368	6,610
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-17	-15	-15	-15	-15	-15	-14	-13
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-17	-15	-15	-15	-15	-15	-14	-13
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	7,150	6,279	6,405	6,468	6,318	6,667	6,354	6,597
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,718	1,718	1,716	1,716	1,714	1,713	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,072	1,075	1,059	1,062	1,010	993	999	1,015
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	5,607	5,094	4,653	3,490	2,711	1,706	1,877	1,594
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	654	544	-1,111	-505	445	557	604	535
TOTAL: EXISTING & PLANNED ENERGY								
	17,791	16,299	12,721	12,232	12,198	11,636	11,551	11,462
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	574	2,453	2,710	2,920	3,236	3,672	4,075	4,460
Other Generic Addition for Energy	55	58	3,769	4,495	4,572	5,131	5,250	5,440
Total Future Generic Resource Needs	629	2,511	6,479	7,416	7,807	8,803	9,326	9,900

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 33. Annual Aggregated Energy Resource Accounting Table
Alternate (or Preferred) Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	23,853	24,573	25,282	26,040	26,667	27,442	28,246	29,116
Load Adjustments for this Scenario(-)	3,844	3,876	3,908	3,954	3,980	4,017	4,052	4,098
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	19,819	20,222	20,621	21,082	21,459	21,907	22,359	22,862
Firm Sales Obligations								
Total Energy Requirement	19,819	20,222	20,621	21,082	21,459	21,907	22,359	22,862
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	4,038	3,987	3,977	3,969	3,942	3,964	3,985	4,055
Total Fossil and Nuclear Energy Supply	7,202	6,325	6,531	6,532	6,328	6,679	6,379	6,617
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-17	-17	-15	-15	-15	-15	-15	-13
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-17	-17	-15	-15	-15	-15	-15	-13
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	7,185	6,309	6,516	6,517	6,313	6,664	6,365	6,604
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,718	1,718	1,716	1,716	1,714	1,713	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,072	1,075	1,059	1,062	1,010	993	999	1,015
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	4,087	3,527	2,620	2,574	2,735	2,125	1,904	1,856
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	2,436	2,428	110	173	365	588	949	767
TOTAL: EXISTING & PLANNED ENERGY								
	18,089	16,646	12,020	12,042	12,137	12,084	11,934	11,962
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	605	2,835	3,092	3,364	3,740	4,019	4,382	4,676
Other Generic Addition for Energy	477	95	4,864	5,032	4,940	5,165	5,406	5,588
Total Future Generic Resource Needs	1,082	2,929	7,956	8,397	8,680	9,183	9,788	10,263

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

**Table 34. Annual Aggregated Energy Resource Accounting Table
No Transmission Case
SDG&E Planning Area, including SDG&E Bundled Loads and shares of ESPs**

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	23,844	24,565	25,274	26,035	26,659	27,434	28,238	29,107
Load Adjustments for this Scenario(-)	4,587	4,634	4,681	4,744	4,783	4,837	4,889	4,953
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	19,068	19,456	19,841	20,288	20,648	21,079	21,515	21,998
Firm Sales Obligations								
Total Energy Requirement	19,068	19,456	19,841	20,288	20,648	21,079	21,515	21,998
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	3,993	3,955	3,937	3,968	3,955	3,980	4,000	4,063
Total Fossil and Nuclear Energy Supply	7,157	6,293	6,491	6,531	6,342	6,696	6,394	6,625
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-16	-15	-15	-15	-15	-15	-15	-13
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-16	-15	-15	-15	-15	-15	-15	-13
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	7,141	6,278	6,476	6,516	6,327	6,680	6,379	6,611
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,717	1,718	1,716	1,716	1,714	1,714	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,072	1,075	1,059	1,062	1,010	993	999	1,015
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	5,303	4,971	4,558	3,760	3,006	2,350	2,536	2,539
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	582	1,038	-322	159	813	1,162	1,475	1,150
TOTAL: EXISTING & PLANNED ENERGY								
	17,406	16,669	13,487	13,212	12,870	12,899	13,107	13,036
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	959	2,054	2,170	2,253	2,550	2,581	2,874	2,952
Other Generic Addition for Energy	55	87	3,539	4,179	4,586	4,959	4,895	5,375
Total Future Generic Resource Needs	1,014	2,141	5,709	6,432	7,136	7,541	7,770	8,327

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

The Total Energy Requirements are somewhat less than that required to meet actual planning area loads. They are simply the summation of what those LSEs reported. No entity was required to report resources for departing loads leaving IOU, such as new CCAs.

Some LSEs did not report sufficient resources to meet loads, therefore this table is not a balanced resource plan for the planning area.

Table 35. Annual Aggregated Energy Resource Accounting Table
Reference Case
SDG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	22,591	23,282	23,961	24,689	25,279	26,019	26,786	27,615
Load Adjustments for this Scenario(-)	4,587	4,634	4,681	4,744	4,783	4,837	4,889	4,953
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	17,814	18,173	18,527	18,941	19,268	19,664	20,062	20,506
Firm Sales Obligations								
Total Energy Requirement	17,814	18,173	18,527	18,941	19,268	19,664	20,062	20,506
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	4,003	3,956	3,869	3,931	3,962	3,993	4,016	4,087
Total Fossil and Nuclear Energy Supply	7,167	6,294	6,423	6,494	6,348	6,708	6,410	6,649
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-17	-15	-15	-15	-16	-16	-15	-14
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-17	-15	-15	-15	-16	-16	-15	-14
Total Utility-Controlled Physical Resources	7,150	6,279	6,408	6,479	6,333	6,692	6,395	6,635
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,718	1,718	1,716	1,716	1,714	1,713	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,009	1,004	978	971	908	879	873	875
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	5,167	4,638	4,185	3,008	2,207	1,457	1,375	1,664
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	606	493	-1,045	-352	686	1,212	1,603	1,147
TOTAL: EXISTING & PLANNED ENERGY	17,240	15,720	12,241	11,822	11,848	11,954	11,964	12,041
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	574	2,453	2,568	2,650	2,788	2,882	2,943	3,045
Other Generic Addition for Energy			3,718	4,470	4,632	4,828	5,155	5,421
Total Future Generic Resource Needs	574	2,453	6,286	7,119	7,421	7,710	8,098	8,466

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 36. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
SDG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	22,591	23,282	23,961	24,689	25,279	26,019	26,786	27,615
Load Adjustments for this Scenario(-)	4,587	4,634	4,681	4,744	4,783	4,837	4,889	4,953
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	17,814	18,173	18,527	18,941	19,268	19,664	20,062	20,506
Firm Sales Obligations								
Total Energy Requirement	17,814	18,173	18,527	18,941	19,268	19,664	20,062	20,506
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	4,003	3,956	3,866	3,920	3,947	3,967	3,974	4,049
Total Fossil and Nuclear Energy Supply	7,167	6,294	6,420	6,483	6,333	6,682	6,368	6,610
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-17	-15	-15	-15	-15	-15	-14	-13
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-17	-15	-15	-15	-15	-15	-14	-13
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources	7,150	6,279	6,405	6,468	6,318	6,667	6,354	6,597
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,718	1,718	1,716	1,716	1,714	1,713	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,072	1,075	1,059	1,062	1,010	993	999	1,015
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	5,167	4,638	4,180	3,000	2,203	1,178	1,330	1,027
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	606	493	-1,164	-562	386	494	538	465
TOTAL: EXISTING & PLANNED ENERGY	17,303	15,792	12,194	11,684	11,630	11,046	10,938	10,826
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	574	2,453	2,710	2,920	3,236	3,672	4,075	4,460
Other Generic Addition for Energy			3,708	4,431	4,504	5,059	5,175	5,361
Total Future Generic Resource Needs	574	2,453	6,418	7,351	7,740	8,732	9,250	9,821

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 37. Annual Aggregated Energy Resource Accounting Table
Alternate (or Preferred) Case
SDG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	22,599	23,290	23,968	24,694	25,287	26,027	26,794	27,624
Load Adjustments for this Scenario(-)	3,844	3,876	3,908	3,954	3,980	4,017	4,052	4,098
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	18,566	18,939	19,307	19,736	20,079	20,492	20,907	21,370
Firm Sales Obligations								
Total Energy Requirement	18,566	18,939	19,307	19,736	20,079	20,492	20,907	21,370
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	4,038	3,987	3,977	3,969	3,942	3,964	3,985	4,055
Total Fossil and Nuclear Energy Supply	7,202	6,325	6,531	6,532	6,328	6,679	6,379	6,617
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-17	-17	-15	-15	-15	-15	-15	-13
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-17	-17	-15	-15	-15	-15	-15	-13
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources	7,185	6,309	6,516	6,517	6,313	6,664	6,365	6,604
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,718	1,718	1,716	1,716	1,714	1,713	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,009	1,004	978	971	908	879	873	875
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,648	3,071	2,147	2,083	2,226	1,598	1,356	1,289
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	2,388	2,377	56	117	306	526	883	698
TOTAL: EXISTING & PLANNED ENERGY	17,538	16,068	11,413	11,404	11,467	11,380	11,195	11,186
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	605	2,835	3,092	3,364	3,740	4,019	4,382	4,676
Other Generic Addition for Energy	422	37	4,803	4,968	4,872	5,093	5,330	5,508
Total Future Generic Resource Needs	1,027	2,871	7,895	8,332	8,612	9,112	9,713	10,184

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 38. Annual Aggregated Energy Resource Accounting Table
No Transmission Case
SDG&E Bundled Loads

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	22,591	23,282	23,961	24,689	25,279	26,019	26,786	27,615
Load Adjustments for this Scenario(-)	4,587	4,634	4,681	4,744	4,783	4,837	4,889	4,953
Uncommitted Energy Efficiency (2009-2016) (-)	141	419	687	929	1,148	1,431	1,741	2,056
Distributed Generation (-)	48	56	66	74	81	87	94	100
Net Energy Demand for Bundled Customers	17,814	18,173	18,527	18,941	19,268	19,664	20,062	20,506
Firm Sales Obligations								
Total Energy Requirement	17,814	18,173	18,527	18,941	19,268	19,664	20,062	20,506
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,164	2,338	2,554	2,563	2,387	2,715	2,394	2,561
Fossil	3,993	3,955	3,937	3,968	3,955	3,980	4,000	4,063
Total Fossil and Nuclear Energy Supply	7,157	6,293	6,491	6,531	6,342	6,696	6,394	6,625
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	-16	-15	-15	-15	-15	-15	-15	-13
Total for all plants 30 MW nameplate or less								
Total Hydro Energy Supply	-16	-15	-15	-15	-15	-15	-15	-13
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources								
	7,141	6,278	6,476	6,516	6,327	6,680	6,379	6,611
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts	1,590	1,589	0	0	0	0	0	0
QF Contracts:								
Total Energy Supply from QF Contracts	1,717	1,718	1,716	1,716	1,714	1,714	1,718	1,721
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,009	1,004	978	971	908	879	873	875
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	4,863	4,515	4,085	3,269	2,498	1,822	1,989	1,972
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	534	987	-376	103	753	1,099	1,410	1,080
TOTAL: EXISTING & PLANNED ENERGY								
	16,855	16,090	12,879	12,574	12,200	12,195	12,368	12,259
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	959	2,054	2,170	2,253	2,550	2,581	2,874	2,952
Other Generic Addition for Energy		29	3,477	4,114	4,518	4,888	4,820	5,295
Total Future Generic Resource Needs	959	2,083	5,648	6,367	7,068	7,469	7,694	8,247

Notes:

EE, DG and DR program impacts are for the entire service area, not just the bundled customer portion.

Dispatchable DWR energy is included with Other Bilateral Contracts.

SDG&E only has one pumped storage hydro plant. The net output of it is negative because pumping energy is greater than output.

Derate for 1-in-5 conditions does not apply to hydro energy.

SMUD PLANNING AREA RESULTS

This section provides the aggregation tables for the Sacramento Municipal Utility District control area. Table 1 indicates the specific entities whose data are reported in the tables of this section following this explanatory text. Other POU's included are Roseville and Redding. The resources to support the direct service loads of the Western Area Power Administration (WAPA) are not included, since WAPA was not required to submit a resource plan in the *2005 Energy Report* proceeding. SMUD, Roseville and Redding do not have direct access loads served by ESPs.

Aggregated Planning Area Capacity and Energy Tables

Aggregated planning area tables are reported for two different scenarios for both annual capacity and annual energy, totaling four tables. These scenarios are:

- Reference Case
- Accelerated Renewables

Among the utilities in this planning area, only SMUD was requested to provide the accelerated renewables scenario resource plan, so for this alternative scenario, the smaller POU reference case resource plans are used to fill out the capacity and energy tables for the whole control area.

Note that the data for years 2015 and 2016 does not appear to be continuous with that of prior years. This discontinuity exists because the Roseville resource plan stopped in year 2014. One might expect a smoother pattern of loads and resources had Roseville submitted data for the full set of years.

Annual Capacity Tables

Two annual capacity tables are reported for the aggregation of LSEs that submitted resource plans for the SMUD control area. To summarize the general explanation provided in Section 2, each of these tables can be thought of as adding together the common cell locations of three LSE-specific tables, e.g. the capacity value reported in the planning area table for LSE-owned fossil resources in year 2009 is the summation of what each of three separate LSEs reported for fossil capacity in that year.

Annual Energy Tables

Two annual energy tables were constructed for the aggregation of LSEs that submitted resource plans for the SMUD control area. The same approach as was used for capacity was used for energy when adding together the comparable data from the LSE-specific aggregated table reporting annual, resource-category results.

Aggregated SMUD customer-specific annual energy and capacity tables

Aggregated SMUD customer annual energy is reported for each of the two scenarios submitted by SMUD. The differences between the two scenarios reflect the decisions SMUD made in interpreting the Supply Forms and Instructions for the reference case and for the accelerated renewables scenario they submitted.

Unlike the three IOUs, SMUD did not request that its detailed resource plan filings be designated as confidential; therefore two aggregated annual capacity tables are provided for the dependable capacity of the SMUD resources, one for each of the two scenarios.

Table 39. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case SMUD Control Area, including SMUD, Redding, and Roseville

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	3,857	3,942	4,026	4,103	4,174	4,250	3,887	3,946
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	14	15	15	15	15	16	16	16
Net Peak Demand	3,843	3,928	4,011	4,088	4,159	4,234	3,871	3,930
Net Peak Demand + 15% Planning Reserve Margin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Firm Sales Obligations	22	22	22	22	22	22	22	
Firm Peak Resource Requirement	3,905	3,991	4,076	4,154	4,226	4,303	3,942	3,979
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	1,354	1,354	1,354	1,354	1,354	1,354	1,155	1,155
Total Dependable Fossil and Nuclear Capacity	1,354	1,354	1,354	1,354	1,354	1,354	1,155	1,155
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	736	736	736	736	736	1,136	1,047	1,047
Total for all plants 30 MW nameplate or less	42	42	42	42	42	42	42	42
Hydro Derate (-) for 1-in-5 conditions	4	4	4	4	4	4		
Total Dependable Hydro Capacity	774	774	774	774	774	1,174	1,089	1,089
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	39	39	59	58	58	58	48	48
Total Utility-Controlled Physical Resources	2,167	2,167	2,187	2,186	2,186	2,586	2,292	2,292
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts	139	139	139	139	139	139	112	112
Other Bilateral Contracts	955	907	736	736	611	611	386	336
Short Term and Spot Market Purchases	537	502	615	571	774	428	550	625
TOTAL: EXISTING & PLANNED CAPACITY	3,798	3,715	3,677	3,632	3,710	3,764	3,341	3,366
Existing Interruptible / Emergency (I/E) Programs	50	50	50	50	50	50	50	50
Uncommitted Dispatchable Demand Response	150	150	150	150	150	150	150	150
TOTAL CAPACITY + I/E and UDDR	3,998	3,915	3,877	3,832	3,910	3,964	3,541	3,566
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	115	165	183	202	199	205	224	235
Capacity for other Generic Resources	200	300	400	525	525	525	575	600
Total Capacity of Future Generic Resources	315	465	583	727	724	730	799	835

Notes:

Roseville did not provide data for 2015 and 2016.

Roseville and SMUD did not add reserve margin to the peak demand.

**Table 40. Annual Aggregated Dependable Capacity Resource Accounting Table
SMUD Control Area, including SMUD, Redding, and Roseville
Accelerated Renewables Case**

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	3,857	3,942	4,026	4,103	4,174	4,250	3,887	3,946
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	14	15	15	15	15	16	16	16
Net Peak Demand	3,843	3,928	4,011	4,088	4,159	4,234	3,871	3,930
Net Peak Demand + 15% Planning Reserve Margin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Firm Sales Obligations	22	22	22	22	22	22	22	
Firm Peak Resource Requirement	3,905	3,991	4,076	4,154	4,226	4,303	3,942	3,979
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	1,354	1,354	1,354	1,354	1,354	1,354	1,155	1,155
Total Dependable Fossil and Nuclear Capacity	1,354	1,354	1,354	1,354	1,354	1,354	1,155	1,155
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	736	736	736	736	736	1,136	1,047	1,047
Total for all plants 30 MW nameplate or less	42	42	42	42	42	42	42	42
Hydro Derate (-) for 1-in-5 conditions	4	4	4	4	4	4		
Total Dependable Hydro Capacity	774	774	774	774	774	1,174	1,089	1,089
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	39	39	59	58	58	58	48	48
Total Utility-Controlled Physical Resources	2,167	2,167	2,187	2,186	2,186	2,586	2,292	2,292
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts	139	139	139	139	139	139	112	112
Other Bilateral Contracts	955	907	736	736	611	611	386	336
Short Term and Spot Market Purchases	537	502	615	546	724	378	475	525
TOTAL: EXISTING & PLANNED CAPACITY	3,798	3,715	3,677	3,607	3,660	3,714	3,266	3,266
Existing Interruptible / Emergency (I/E) Programs	50	50	50	50	50	50	50	50
Uncommitted Dispatchable Demand Response	150	150	150	150	150	150	150	150
TOTAL CAPACITY + I/E and UDDR	3,998	3,915	3,877	3,807	3,860	3,914	3,466	3,466
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	115	165	183	219	234	258	296	327
Capacity for other Generic Resources	200	300	400	525	525	525	575	600
Total Capacity of Future Generic Resources	315	465	583	727	724	730	799	835

Notes:

Roseville did not provide data for 2015 and 2016.

Roseville and SMUD did not add reserve margin to the peak demand.

Table 41. Annual Aggregated Energy Resource Accounting Table
Reference Case
SMUD Control Area, including SMUD, Redding, and Roseville

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	14,312	14,610	14,914	15,240	15,475	15,746	14,333	14,624
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	56	56	57	58	58	59	60	60
Net Energy Demand for Bundled Customers	14,256	14,554	14,857	15,182	15,417	15,687	14,273	14,563
Firm Sales Obligations	150	150	150	150	150	150	115	48
Total Energy Requirement	14,406	14,704	15,007	15,332	15,567	15,837	14,388	14,611
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	7,063	7,137	7,056	7,083	7,039	7,036	6,319	6,319
Total Fossil and Nuclear Energy Supply	7,063	7,137	7,056	7,083	7,039	7,036	6,319	6,319
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,908	1,908	1,908	1,907	1,907	2,399	2,662	2,662
Total for all plants 30 MW nameplate or less	84	84	84	84	84	84	84	84
Total Hydro Energy Supply	1,992	1,992	1,992	1,992	1,991	2,483	2,746	2,747
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	413	411	651	648	648	648	564	565
Total Utility-Controlled Physical Resources	9,468	9,540	9,699	9,722	9,678	10,168	9,630	9,631
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	793	576	576	576	576	576	383	278
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,047	2,791	1,938	1,829	1,759	1,759	1,028	935
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	625	798	1,579	1,815	2,075	1,820	1,426	1,632
TOTAL: EXISTING & PLANNED ENERGY	13,933	13,705	13,792	13,942	14,088	14,323	12,468	12,476
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	1,006	1,502	1,655	1,816	1,856	1,902	2,063	2,221
Other Generic Addition for Energy	45	40	41	58	86	55	289	320
Total Future Generic Resource Needs	1,051	1,541	1,696	1,874	1,941	1,956	2,352	2,541

Notes:

Derate for 1-in-5 conditions does not apply to hydro energy.

Roseville did not provide data for 2015 and 2016.

Table 42. Annual Aggregated Energy Resource Accounting Table
Accelerated Renewable Case
SMUD Control Area, including SMUD, Redding, and Roseville

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	14,312	14,610	14,914	15,240	15,475	15,746	14,333	14,624
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	56	56	57	58	58	59	60	60
Net Energy Demand for Bundled Customers	14,256	14,554	14,857	15,182	15,417	15,687	14,273	14,563
Firm Sales Obligations	150	150	150	150	150	150	115	48
Total Energy Requirement	14,406	14,704	15,007	15,332	15,567	15,837	14,388	14,611
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	7,063	7,137	7,056	7,083	7,039	7,036	6,319	6,319
Total Fossil and Nuclear Energy Supply	7,063	7,137	7,056	7,083	7,039	7,036	6,319	6,319
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,908	1,908	1,908	1,907	1,907	2,399	2,662	2,662
Total for all plants 30 MW nameplate or less	84	84	84	84	84	84	84	84
Total Hydro Energy Supply	1,992	1,992	1,992	1,992	1,991	2,483	2,746	2,747
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	413	411	651	648	648	648	564	565
Total Utility-Controlled Physical Resources								
	9,468	9,540	9,699	9,722	9,678	10,168	9,630	9,631
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Must-take DWR Contracts:								
Total Energy Supply from DWR Contracts								
QF Contracts:								
Total Energy Supply from QF Contracts								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	793	576	576	576	576	576	383	278
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	3,047	2,791	1,938	1,829	1,759	1,759	1,028	935
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	625	798	1,579	1,615	1,669	1,213	595	583
TOTAL: EXISTING & PLANNED ENERGY								
	13,933	13,705	13,792	13,742	13,683	13,716	11,637	11,427
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	1,006	1,502	1,655	2,019	2,267	2,530	2,913	3,304
Other Generic Addition for Energy	45	40	41	55	80	34	270	286
Total Future Generic Resource Needs	1,051	1,541	1,696	1,874	1,941	1,956	2,352	2,541

Notes:

Derate for 1-in-5 conditions does not apply to hydro energy.

Roseville did not provide data for 2015 and 2016.

Table 43. Annual Aggregated Dependable Energy Resource Accounting Table - Reference Case SMUD customers

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	11,986	12,216	12,448	12,717	12,911	13,147	13,339	13,608
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	56	56	57	58	58	59	60	60
Net Energy Demand for Bundled Customers	11,930	12,160	12,391	12,659	12,853	13,088	13,279	13,547
Firm Sales Obligations								
Total Energy Requirement	11,930	12,160	12,391	12,659	12,853	13,088	13,279	13,547
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	5,680	5,681	5,681	5,693	5,697	5,697	5,697	5,697
Total Fossil and Nuclear Energy Supply	5,680	5,681	5,681	5,693	5,697	5,697	5,697	5,697
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,672	1,672	1,672	1,672	1,672	2,166	2,662	2,662
Total for all plants 30 MW nameplate or less	75	75	75	75	75	75	75	75
Total Hydro Energy Supply	1,747	1,747	1,747	1,748	1,747	2,241	2,737	2,738
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	318	318	564	564	564	564	564	565
Total Utility-Controlled Physical Resources	7,745	7,746	7,992	8,004	8,008	8,503	8,999	9,000
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	536	319	319	319	319	319	126	21
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	2,311	2,055	1,569	1,460	1,390	1,390	835	835
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	506	717	1,034	1,243	1,435	1,160	1,426	1,632
TOTAL: EXISTING & PLANNED ENERGY	11,098	10,837	10,914	11,026	11,152	11,372	11,387	11,488
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	787	1,283	1,436	1,597	1,637	1,683	1,844	2,002
Other Generic Addition for Energy	45	40	41	36	64	33	48	57
Total Future Generic Resource Needs	832	1,322	1,477	1,633	1,700	1,716	1,892	2,059

Table 44. Annual Aggregated Dependable Energy Resource Accounting Table
Accelerated Renewable Case
SMUD customers

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Forecast Total Energy Demand	11,986	12,216	12,448	12,717	12,911	13,147	13,339	13,608
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	56	56	57	58	58	59	60	60
Net Energy Demand for Bundled Customers	11,930	12,160	12,391	12,659	12,853	13,088	13,279	13,547
Firm Sales Obligations								
Total Energy Requirement	11,930	12,160	12,391	12,659	12,853	13,088	13,279	13,547
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	5,680	5,681	5,681	5,693	5,697	5,697	5,697	5,697
Total Fossil and Nuclear Energy Supply	5,680	5,681	5,681	5,693	5,697	5,697	5,697	5,697
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,672	1,672	1,672	1,672	1,672	2,166	2,662	2,662
Total for all plants 30 MW nameplate or less	75	75	75	75	75	75	75	75
Total Hydro Energy Supply	1,747	1,747	1,747	1,747	1,747	2,241	2,737	2,738
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	318	318	564	564	564	564	564	565
Total Utility-Controlled Physical Resources	7,745	7,746	7,992	8,004	8,008	8,503	8,999	9,000
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	536	319	319	319	319	319	126	21
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	2,311	2,055	1,569	1,460	1,390	1,390	835	835
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	506	717	1,034	1,043	1,029	553	595	583
TOTAL: EXISTING & PLANNED ENERGY	11,098	10,837	10,914	10,826	10,747	10,765	10,556	10,439
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy	787	1,283	1,436	1,800	2,048	2,311	2,694	3,085
Other Generic Addition for Energy	45	40	41	33	58	12	29	23
Total Future Generic Resource Needs	832	1,322	1,477	1,833	2,106	2,322	2,724	3,109

Notes:

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 45. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case SMUD customers

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	3,198	3,261	3,323	3,386	3,446	3,508	3,566	3,614
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	14	15	15	15	15	16	16	16
Net Peak Demand	3,184	3,246	3,308	3,371	3,431	3,492	3,550	3,598
Net Peak Demand + 15% Planning Reserve Margin								
Firm Sales Obligations								
Firm Peak Resource Requirement	3,184	3,246	3,308	3,371	3,431	3,492	3,550	3,598
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	1,001	1,001	1,001	1,001	1,001	1,001	1,001	1,001
Total Dependable Fossil and Nuclear Capacity	1,001	1,001	1,001	1,001	1,001	1,001	1,001	1,001
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	647	647	647	647	647	1,047	1,047	1,047
Total for all plants 30 MW nameplate or less	41	41	41	41	41	41	41	41
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	688	688	688	688	688	1,088	1,088	1,088
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	28	28	48	48	48	48	48	48
Total Utility-Controlled Physical Resources	1,717	1,717	1,737	1,737	1,737	2,137	2,137	2,137
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts	35	35	35	35	35	35	27	8
Other Bilateral Contracts	786	738	642	642	517	517	336	336
Short Term and Spot Market Purchases	525	475	500	450	650	300	550	625
TOTAL: EXISTING & PLANNED CAPACITY	3,063	2,965	2,914	2,864	2,939	2,989	3,051	3,107
Existing Interruptible / Emergency (I/E) Programs	50	50	50	50	50	50	50	50
Uncommitted Dispatchable Demand Response	150	150	150	150	150	150	150	150
TOTAL CAPACITY + I/E and UDDR	3,263	3,165	3,114	3,064	3,139	3,189	3,251	3,307
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	90	140	158	177	174	180	199	210
Capacity for other Generic Resources	200	300	400	500	500	500	500	500
Total Capacity of Future Generic Resources	290	440	558	677	674	680	699	710

Table 46. Annual Aggregated Dependable Capacity Resource Accounting Table
Accelerated Renewable Case
SMUD customers

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	3,198	3,261	3,323	3,386	3,446	3,508	3,566	3,614
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)	14	15	15	15	15	16	16	16
Net Peak Demand	3,184	3,246	3,308	3,371	3,431	3,492	3,550	3,598
Net Peak Demand + 15% Planning Reserve Margin								
Firm Sales Obligations								
Firm Peak Resource Requirement	3,184	3,246	3,308	3,371	3,431	3,492	3,550	3,598
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear								
Fossil	1,001	1,001	1,001	1,001	1,001	1,001	1,001	1,001
Total Dependable Fossil and Nuclear Capacity	1,001	1,001	1,001	1,001	1,001	1,001	1,001	1,001
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	647	647	647	647	647	1,047	1,047	1,047
Total for all plants 30 MW nameplate or less	41	41	41	41	41	41	41	41
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	688	688	688	688	688	1,088	1,088	1,088
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	28	28	48	48	48	48	48	48
Total Utility-Controlled Physical Resources	1,717	1,717	1,737	1,737	1,737	2,137	2,137	2,137
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts	35	35	35	35	35	35	27	8
Other Bilateral Contracts	786	738	642	642	517	517	336	336
Short Term and Spot Market Purchases	525	475	500	425	600	250	475	525
TOTAL: EXISTING & PLANNED CAPACITY	3,063	2,965	2,914	2,839	2,889	2,939	2,976	3,007
Existing Interruptible / Emergency (I/E) Programs	50	50	50	50	50	50	50	50
Uncommitted Dispatchable Demand Response	150	150	150	150	150	150	150	150
TOTAL CAPACITY + I/E and UDDR	3,263	3,165	3,114	3,039	3,089	3,139	3,176	3,207
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources	90	140	158	194	209	233	271	302
Capacity for other Generic Resources	200	300	400	500	500	500	500	500
Total Capacity of Future Generic Resources	315	465	583	727	724	730	799	835

LADWP CONTROL AREA RESULTS

This section provides the aggregation tables for the Los Angeles Department of Water & Power (LADWP) control area. Table 1 indicates the specific entities whose data are reported in the tables of this section following this explanatory text. Other POU's included are Burbank and Glendale. LADWP, Burbank and Glendale have no direct access loads served by ESPs.

The S-1 and S-2 forms submitted by LADWP on April 25 and supplemented on May 4, 2005 were used as the source materials for staff's aggregation efforts.

Aggregated Planning Area Capacity and Energy Tables

The final package of data submitted by LADWP has been combined with the reference case materials of the two smaller POU's to develop a composite reference case for the control area.

Aggregated planning area tables are reported for the reference case scenario for both annual capacity and annual energy. All three POU's reported just this single scenario. This is a total of two tables.

Annual Capacity Table

An annual capacity table is reported for the aggregation of POU's that submitted resource plans for the LADWP control area. To summarize the general explanation provided in Section 2, each of these tables can be thought of as adding together the common cell locations of three LSE-specific tables, e.g. the capacity value reported in the planning area table for LSE-owned fossil resources in year 2009 is the summation of what each of three separate LSEs reported for fossil capacity in that year.

Annual Energy Table

An annual energy table was constructed for the aggregation of POU's that submitted resource plans for the LADWP control area. The same approach as was used for capacity was used for energy when adding together the comparable data from the LSE-specific aggregated table reporting annual, resource-category results.

Aggregated LADWP-Specific Customer Annual Energy and Capacity Tables

An LADWP service area annual energy table is reported using the final, updated reference case submitted by LADWP.

Unlike the three IOUs, LADWP did not request that its detailed resource plan filings be designated as confidential; therefore, an annual dependable capacity table is provided LADWP resources.

Table 47. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case LADWP Control Area, including LADWP, Burbank, and Glendale

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	6,478	6,580	6,674	6,758	6,835	6,913	6,992	7,072
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)	54	72	90	108	126	144	162	180
Distributed Generation (-)	13	13	14	15	15	16	17	17
Net Peak Demand	6,411	6,495	6,570	6,636	6,694	6,753	6,813	6,875
Net Peak Demand + 15% Planning Reserve Margin	7,260	7,340	7,411	7,473	7,527	7,582	7,638	7,696
Firm Sales Obligations	45	45	45	45	45	45	45	45
Firm Peak Resource Requirement	7,601	7,685	7,761	7,828	7,886	7,946	8,007	8,069
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	397	397	397	397	397	397	397	397
Fossil	5,677	5,677	5,677	5,677	5,727	5,727	5,727	5,727
Total Dependable Fossil and Nuclear Capacity	6,074	6,074	6,074	6,074	6,124	6,124	6,124	6,124
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,818	1,818	1,818	1,818	1,818	1,818	1,818	1,818
Total for all plants 30 MW nameplate or less	26	26	26	26	26	26	26	26
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	1,844	1,844	1,844	1,844	1,844	1,844	1,844	1,844
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	78	138	139	199	200	261	261	321
Total Utility-Controlled Physical Resources	7,996	8,056	8,057	8,117	8,168	8,229	8,229	8,289
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts	2	2	2	2	2	2	2	2
Other Bilateral Contracts	50	50	50	50				
Short Term and Spot Market Purchases								
TOTAL: EXISTING & PLANNED CAPACITY	8,048	8,108	8,109	8,169	8,170	8,231	8,231	8,291
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response	30	30	30	30	30	30	30	30
TOTAL CAPACITY + I/E and UDDR	8,078	8,138	8,139	8,199	8,200	8,261	8,261	8,321
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources								
Capacity for other Generic Resources								
Total Capacity of Future Generic Resources								

Notes:

Pumped storage hydro plants are included in the over 30 MW category.

Table 48. Annual Aggregated Energy Resource Accounting Table
Reference Case
LADWP Control Area, including LADWP, Burbank, and Glendale

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	31,234	31,722	32,153	32,508	32,861	33,226	33,598	33,977
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)	228	282	336	390	444	498	552	606
Distributed Generation (-)	116	122	128	134	140	146	152	158
Net Energy Demand for Bundled Customers	30,890	31,318	31,688	31,984	32,276	32,582	32,894	33,213
Firm Sales Obligations	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293
Total Energy Requirement	32,183	32,611	32,981	33,277	33,569	33,875	34,187	34,506
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,186	3,186	3,186	3,186	3,186	3,186	3,186	3,186
Fossil	23,392	23,388	23,417	23,383	23,336	23,293	23,257	23,221
Total Fossil and Nuclear Energy Supply	26,578	26,574	26,603	26,569	26,523	26,479	26,443	26,408
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,699	1,698	1,698	1,698	1,698	1,698	1,698	1,698
Total for all plants 30 MW nameplate or less	118	118	118	118	118	118	118	118
Total Hydro Energy Supply	1,817	1,817	1,817	1,817	1,817	1,817	1,817	1,817
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	2,386	2,812	3,128	3,434	3,745	4,064	4,389	4,721
Total Utility-Controlled Physical Resources	30,782	31,203	31,548	31,820	32,085	32,360	32,649	32,946
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	17	17	17	17	17	17	17	17
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	375	375	375	345	256	256	256	256
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	1,036	1,038	1,059	1,107	1,212	1,243	1,265	1,287
TOTAL: EXISTING & PLANNED ENERGY	32,209	32,632	32,998	33,289	33,569	33,875	34,187	34,506
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy								
Other Generic Addition for Energy								
Total Future Generic Resource Needs								

Notes:

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 49. Annual Aggregated Dependable Energy Resource Accounting Table - Reference Case LADWP Customers

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	28,720	29,183	29,586	29,913	30,240	30,575	30,920	31,270
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)	228	282	336	390	444	498	552	606
Distributed Generation (-)	116	122	128	134	140	146	152	158
Net Energy Demand for Bundled Customers	28,376	28,779	29,122	29,389	29,656	29,931	30,216	30,506
Firm Sales Obligations	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221
Total Energy Requirement	29,597	30,000	30,343	30,610	30,877	31,152	31,437	31,727
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026
Fossil	21,375	21,352	21,379	21,340	21,296	21,253	21,212	21,170
Total Fossil and Nuclear Energy Supply	24,401	24,379	24,406	24,367	24,322	24,279	24,239	24,196
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672
Total for all plants 30 MW nameplate or less	46	46	46	46	46	46	46	46
Total Hydro Energy Supply	1,718	1,718	1,718	1,718	1,718	1,718	1,718	1,718
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply	2,304	2,729	3,045	3,351	3,663	3,981	4,306	4,639
Total Utility-Controlled Physical Resources	28,423	28,826	29,169	29,436	29,703	29,978	30,263	30,553
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	17	17	17	17	17	17	17	17
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	256	256	256	256	256	256	256	256
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	917	917	917	917	917	917	917	917
TOTAL: EXISTING & PLANNED ENERGY	29,613	30,016	30,359	30,626	30,893	31,168	31,453	31,743
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy								
Other Generic Addition for Energy								
Total Future Generic Resource Needs								

Notes:

Derate for 1-in-5 conditions does not apply to hydro energy.

Table 50. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case LADWP Customers

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	5,884	5,977	6,061	6,137	6,205	6,274	6,344	6,416
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)	54	72	90	108	126	144	162	180
Distributed Generation (-)	13	13	14	15	15	16	17	17
Net Peak Demand	5,817	5,892	5,957	6,014	6,064	6,114	6,165	6,219
Net Peak Demand + 15% Planning Reserve Margin	6,917	6,992	7,057	7,114	7,164	7,214	7,265	7,319
Firm Sales Obligations	45	45	45	45	45	45	45	45
Firm Peak Resource Requirement	6,962	7,037	7,102	7,159	7,209	7,259	7,310	7,364
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	376	376	376	376	376	376	376	376
Fossil	5,013	5,013	5,013	5,013	5,063	5,063	5,063	5,063
Total Dependable Fossil and Nuclear Capacity	5,389	5,389	5,389	5,389	5,439	5,439	5,439	5,439
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	1,798	1,798	1,798	1,798	1,798	1,798	1,798	1,798
Total for all plants 30 MW nameplate or less	6	6	6	6	6	6	6	6
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	1,804	1,804	1,804	1,804	1,804	1,804	1,804	1,804
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity	67	127	128	188	189	250	250	310
Total Utility-Controlled Physical Resources	7,260	7,320	7,321	7,381	7,432	7,493	7,493	7,553
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts								
Other Bilateral Contracts	0	0	0	0	0	0	0	0
Short Term and Spot Market Purchases	0	0	0	0	0	0	0	0
TOTAL: EXISTING & PLANNED CAPACITY	7,260	7,320	7,321	7,381	7,432	7,493	7,493	7,553
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response	30	30	30	30	30	30	30	30
TOTAL CAPACITY + I/E and UDDR	7,290	7,350	7,351	7,411	7,462	7,523	7,523	7,583
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources								
Capacity for other Generic Resources								
Total Capacity of Future Generic Resources								

Notes:

Pumped storage hydro plants are included in the over 30 MW category.

IID CONTROL AREA RESULTS

This section provides the aggregation tables for the Imperial Irrigation District (IID) control area. IID has no other POU's within its control area and has no direct access loads served by ESPs. Thus, unique among the other planning areas and control areas, the IID resource plan data is not masked through aggregation with resources of other LSEs.

IID requested and received confidentiality for its detailed monthly resource plan filings, but has agreed to the release of the resource plan information in annual, resource category tables. Aggregated annual energy and aggregated annual capacity tables are provided to summarize the IID resource plan.

Table 51. Annual Aggregated Dependable Capacity Resource Accounting Table - Reference Case IID

	2009	2010	2011	2012	2013	2014	2015	2016
PEAK DEMAND CALCULATIONS (MW):								
Forecast Total Peak Demand	1,064	1,099	1,134	1,171	1,210	1,250	1,291	1,334
Load Adjustment for This Scenario(-)								
Uncommitted Price Sensitive DR Programs (-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)								
Net Peak Demand	1,064	1,099	1,134	1,171	1,210	1,250	1,291	1,334
Net Peak Demand + 15% Planning Reserve Margin	1,224	1,264	1,304	1,347	1,392	1,438	1,485	1,534
Firm Sales Obligations								
Firm Peak Resource Requirement	1,224	1,264	1,304	1,347	1,392	1,438	1,485	1,534
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	14	14	14	14	14	14	14	14
Fossil	796	796	846	896	946	946	996	1,046
Total Dependable Fossil and Nuclear Capacity	810	810	860	910	960	960	1,010	1,060
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	33	33	33	33	33	33	33	33
Total for all plants 30 MW nameplate or less	32	32	32	32	32	32	32	32
Hydro Derate (-) for 1-in-5 conditions								
Total Dependable Hydro Capacity	65	65	65	65	65	65	65	65
Existing & Planned Renewable Energy:								
Total Renewable Energy Capacity								
Total Utility-Controlled Physical Resources	875	875	925	975	1,025	1,025	1,075	1,125
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Renewable Contracts	170	170	170	195	195	195	195	195
Other Bilateral Contracts	150	150	150	150	150	150	150	150
Short Term and Spot Market Purchases								
TOTAL: EXISTING & PLANNED CAPACITY	1,195	1,195	1,245	1,320	1,370	1,370	1,420	1,470
Existing Interruptible / Emergency (I/E) Programs								
Uncommitted Dispatchable Demand Response								
TOTAL CAPACITY + I/E and UDDR	1,195	1,195	1,245	1,320	1,370	1,370	1,420	1,470
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Resources								
Capacity for other Generic Resources								
Total Capacity of Future Generic Resources	0	0	0	0	0	0	0	0

Table 52. Annual Aggregated Energy Resource Accounting Table
Reference Case
IID

	2009	2010	2011	2012	2013	2014	2015	2016
ENERGY DEMAND CALCULATIONS (GWh)								
Reference Case Forecast Total Energy Demand	4,207	4,341	4,485	4,631	4,782	4,939	5,102	5,271
Load Adjustments for this Scenario(-)								
Uncommitted Energy Efficiency (2009-2016) (-)								
Distributed Generation (-)								
Net Energy Demand for Bundled Customers	4,207	4,341	4,485	4,631	4,782	4,939	5,102	5,271
Firm Sales Obligations								
Total Energy Requirement	4,207	4,341	4,485	4,631	4,782	4,939	5,102	5,271
EXISTING & PLANNED RESOURCES								
Utility-Controlled Fossil and Nuclear Resources:								
Nuclear	100	100	100	100	100	100	100	100
Fossil	1,530	1,500	1,746	1,793	1,912	1,912	2,098	1,956
Total Fossil and Nuclear Energy Supply	1,630	1,600	1,846	1,894	2,012	2,011	2,198	2,057
Utility-Controlled Hydroelectric Resources:								
Total for all plants over 30 MW nameplate	157	157	157	157	157	157	157	157
Total for all plants 30 MW nameplate or less	235	235	235	236	235	235	235	236
Total Hydro Energy Supply	392	392	392	392	392	392	392	392
Existing & Planned Renewable Energy:								
Total Renewable Energy Supply								
Total Utility-Controlled Physical Resources	2,022	1,992	2,238	2,286	2,404	2,403	2,590	2,449
EXISTING & PLANNED CONTRACTUAL RESOURCES								
Existing & Planned Renewable Contracts:								
Total Existing & Planned Renewable Contracts	1,430	1,430	1,430	1,562	1,640	1,640	1,640	1,645
Other Bilateral Contracts:								
Total Energy Supply from Other Bilateral Contracts	322	307	357	370	392	388	445	397
Short Term and Spot Market Purchases:								
Short Term and Spot Market Purchases	425	605	452	405	342	501	420	774
TOTAL: EXISTING & PLANNED ENERGY	4,198	4,334	4,477	4,623	4,777	4,932	5,096	5,265
FUTURE GENERIC RESOURCE NEEDS								
Generic Renewable Energy								
Other Generic Addition for Energy								
Total Future Generic Resource Needs	0	0	0	0	0	0	0	0

Endnotes

¹ In letters issued about April 1, 2005 the Executive Director responded to LSE requests for confidentiality of monthly, resource-specific resource plan data by classifying it as confidential for a period of three years, until the end of 2008.

² Pursuant to Energy Commission confidentiality regulations, the Executive Director may propose aggregations of data that have been previously ruled to be confidential which would permit the data to be released to the public. In making such decisions, the proposal must be submitted to the originator of the confidential data and their response solicited.

³ The three IOU responses appealed different portions of the three aggregation proposals put forward by the Executive Director. Since uniformity of resource plan data presentation has value to reviewers, and distributing this material is crucial to keeping the *2005 Energy Report* proceeding on its current schedule, Staff has prepared the aggregations in this report as the lowest common denominator of the aggregation proposals that were acceptable. Subsequent reports may release further information acceptable to one or more LSEs, but not all LSEs.

⁴ PG&E and SCE planning areas contain several municipal utilities that filed load forecasts and several more that did not because they were less than the 200 MW threshold for submitting load forecasts into the 2005 Energy Report Proceeding. All three IOU-centric planning areas within the CAISO control area contain loads of small ESPs, 200 MW peak demand that were not required to submit load forecasts. Load forecast data for these smaller entities can be used to make reasonable approximations to ascertain the degree of dominance of the IOU bundled customer loads in the planning area.